Xeriscape Your Yard

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Needs Assessment

According to the U.S. Drought Monitor (2015), a drought map produced weekly by The National Drought Mitigation Center, more than 53 million residents in the western United States face drought conditions today. In California, half of the state (containing the majority of its residents) lives under "extreme" or "exceptional" drought conditions – the two driest categories measured.

As state and municipal regulators, especially in California, begin to restrict residential water use (that is, water for non-agricultural purposes), homeowners may choose to cut back on non-essential water use, including watering lawns and other landscaping features. Homeowner's Associations (HOAs), in keeping with their rules about the care and appearance of the landscape environments in the neighborhoods they govern, are increasingly interested in educating homeowners about the alternatives to high water use yards. One such alternative is the "xeriscape" landscaping style, which requires little or no maintenance and adapts well to the drought-tolerant requirements of arid regions. In particular, yards designed with xeriscaping principles allow homeowners to cultivate yards that maintain the aesthetics that HOAs often require and that reduce maintenance and water usage.

The Sterling Heights Homeowner's Association in Lake Forest, CA (hereafter referred to as "the Client", "the HOA", and/or "the Association"), desires to educate its homeowners (our audience) about xeriscaping with drought-tolerant plants and landscape architecture features. We will design and create a tutorial demonstrating how to create low-water xeriscape environments for yards; specifically, landscapes that are in harmony with the Association's Declaration of Covenants, Conditions, and Restrictions (CC&Rs) regarding front yard landscape appearance.

Project Scope

The Client has requested a tutorial to instruct learners on the basic steps for designing and constructing a landscape based on xeriscape (drought-tolerant) principles. Topics contained in the tutorial include, but are not limited to: amending the soil, utilizing climate zones, choosing plant material, structuring irrigation, mulching/hardscaping, and maintaining xeriscape landscapes. Since the Client has requested that the tutorial be short (taking about 15 minutes to complete), content scope will be limited and introductory in nature, as prior client research suggests that current audience knowledge of xeriscaping concepts is limited to "little or no knowledge." The Client agrees that the current scope of this project is sufficient to meet all learning goals described in this plan.

In terms of learning process, the tutorial will include the following elements: (1) sections that introduce information; (2) activities to help learners understand and use the information they previously saw; and, (3) interactive assessments to evaluate the accuracy of what's learned. Of note, learners who are familiar with topics presented in the tutorial will be able to skip to other topics via a Menu. Resources such as a Learner's Guide handout will be available to assist learners before they begin the tutorial.

Prior research also indicated that a small proportion of learners may be familiar with xeriscaping. To accommodate these learners, the tutorial will provide links to additional resources offering more detailed information about drought-tolerant plant identification. Although this will not be a prominent feature of the tutorial, it will include access to information beyond the scope of this particular product, and may be of significant use to these users who may be more interested in or familiar with gardening.

Upon completing the tutorial, learners will take quizzes to assess their competency. This competency, along with the information available in supplied links, will help to ensure an appropriate transfer of knowledge when learners attempt to design their own xeriscaped yards.

Delivery Method

This tutorial product will be produced using Adobe Captivate 8. The tutorial will be published to the Client's website as a .swf (Flash) file, which requires a browser utilizing Adobe Flash Player 10. The choice of a Flash file, as opposed to an HTML file, is important because certain devices do not support Flash. For example, the Kindle Fire and the iPad may need software modifications that are beyond the technical abilities of some of the tutorial's users. Despite this drawback, we determined, along with the Client, that publishing in Flash will be more beneficial for learning purposes. Many of the interaction activities and features planned in the tutorial are not supported in HTML (including, but not limited to, loss of graphics, transitions, and text alignment that could negatively impact knowledge acquisition and learner experience).

Project Goals

The goal of this tutorial is to educate homeowners on how to design and maintain landscapes using xeriscape principles. While specific learning objectives are detailed in the next section, it is important that we specify this goal here, as it shapes the design and development decisions we will make in the future. Since many of the learners have little to no knowledge of xeriscaping, this tutorial will introduce the concepts, and serve as a basic how-to in landscaping with native and drought-tolerant plants. We assume that many learners will outsource the actual work of transitioning to xeriscape landscape to someone else. Therefore, the ultimate goal of this tutorial is not to teach homeowners how to implement a xeriscape landscape, but rather to ensure that the learners obtain sufficient

knowledge of xeriscaping principles. HOA guidelines regarding landscape maintenance can be vague. For example, the guidelines may state that "yards facing streets and common areas must look neat and clean." Homeowners who follow the basic principles presented in this tutorial will be in compliance with these HOA guidelines. While the Association neither supports nor opposes xeriscaping, they do emphasize that homeowners should understand that it is an acceptable option when properly installed and maintained.

Learner Characteristics

This tutorial will target adult learners who are homeowners[1] living in the neighborhoods the Association regulates. This audience is a very specific group, and while we will not explore whether the tutorial may be generalized to fit a wider audience (e.g., homeowners who are regulated by a neighboring association), we surmise that it likely will, thus potentially benefitting a wider audience. Learners of all ages who would like to explore the basics of landscaping using xeriscape principles will be encouraged to complete the tutorial.

The tutorial is targeted toward learners who are proficient in the English language and who read at an eighth-grade level or higher. This grade level was chosen to accommodate the widest range of reading proficiencies. Ninety percent of the Association's homeowners speak English at home, and 89 percent have a high school diploma or higher. Learners must be proficient with basic computer and mouse usage in order to comfortably complete the multimedia portions of the tutorial. Though not required, previous gardening or knowledge of plants could benefit learners. Table 1 provides additional details about the characteristics of anticipated learners.

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[1] Currently, approximately 30 percent of Sterling Heights residents are not homeowners, but renters. Due to their inability to initiate permanent changes to the residents they inhabit, they are *not* considered part of our official learner audience. However, because they were not excluded in the prior HOA survey, and because they will have access to the tutorial, they are defacto included here in our learner description. Renters will be excluded from participating in summative evaluation.

Table 1

Learner Characteristics

Item	Target Audience	Non-Target	Notes
Location	Sterling Heights Neighborhood	Outside of the Sterling Heights Neighborhood	
Age (in years)	16+	< 16	
Educational level	Some High School	Below Some High School	Basic algebra recommended for budget est.
Reading level	8th grade	Below 8th grade	
Motivation	High, Intrinsic	Low, External	
Prerequisite knowledge	None	None	Basic interest in gardening and care of plants may be beneficial
Prerequisite skills	None	None	
Facility with a computer	Moderate	Low	Persons with no computer skills may find navigating the tutorial difficult
Familiarity with the Web	Low	None	Basic understanding of hyperlinks required
Typing ability	Low	None	Typing in text boxes required
Access to computers	Required	No Access to a Computer	Tutorial delivery formatted for use on Client web site
Access to Web	Required	No Access to Web	Additional resources direct to websites
Time availability	15 minutes	< 15 minutes	Tutorial completion takes approx. 15 minutes
Physical disabilities	This tutorial will assist those with disabilities by including audio and visual elements.		
Languages	This tutorial will be provided in U.S. English, but captions in other languages can be included at a later date, per client request.		

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 440, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Learning Objectives

When creating effective instructional training, it is necessary for designers, developers, and clients to ensure that each intervention facilitates learning goals and objectives. This is done, in part, by carefully extending project goals to the learner's level. The Client has indicated that certain learning objectives are important for learners. Specifically, upon completing this tutorial, learners should be able to plan and design a yard using xeriscaping principles, including:

- Applying design plans that take advantage of individual yard features.

- Calculating a budget for a xeriscape conversion.

- Analyzing techniques for amending soil and establishing proper irrigation and drainage.

- Reviewing resources for identifying appropriate plants by climate zone.

- Considering options for area coverage such as synthetic grass, mulch, and hardscape.

- Maintaining a xeriscaped yard.

Theoretical Considerations

Because this tutorial is intended for adult learners, it is useful to incorporate models of learning (i.e., theories) that provide best practices that apply specifically to this audience. There is no one theory that describes all of adult learning; instead, various ideas and teaching models attempt to illuminate the process by which adults learn (or, in some cases, don't learn).

Foundation: Knowles' Theory of Andragogy

Knowles is one of the best-known Western theoreticians regarding adult learning theory, and popularized the term "andragogy" to describe his collection of ideas, or assumptions, about how adults learn (Merriam, Caffarella, & Baumgartner, 2007). A theoretical basis for

andragogy, which addresses why tutorials like this may be particularly effective for adults, is Knowles' assumption that, as people age and mature, they become more independent and self-directed. Research demonstrates that eLearning is most effective when learners are intrinsically motivated (Malone, 1981), and higher levels of self-directedness suggest more motivation to learn. This is especially important because the Client is not compelling the audience to participate; rather, homeowners may choose to do so at their own discretion.

Knowles also assumes that people gain more experience as they age, so past learning and experience shapes future learning and experience. Our learners who have already made positive connections with gardening may be more likely to be intrinsically motivated to seek out more information on their own about it, which is why it is important that the tutorial includes links to additional resources that are more advanced than the material presented in the tutorial itself.

Additionally, Knowle's andragogy theory assumes that propensity for adult learning interacts with our social roles. That is, our roles as parents, teachers, and homeowners may influence how we construct meaning. Because our learners are homeowners who are literally and metaphorically invested in their homes and neighborhoods, a tutorial that speaks to the things they care about, like saving water, is more likely to promote learning.

Finally, another andragogy assumption is that people become more problem-centered as they age (Merriam, Caffarella, & Baumgartner, 2007). To accommodate this, the tutorial's foundation will begin my defining the problem facing homeowners: how to adapt their yards for drought. The tutorial will build on this by suggesting concrete solutions to resolve this dilemma.

Learning and Memory: Cognitive Load Theory

The xeriscaping tutorial will also include principles of multimedia learning design that are derived from extensive research and empirical study of cognitive load theory. This theory

focuses on how the working portion of memory processes information and stores it into long-term memory. The theory also suggests guidelines for preventing situations that cause working memory to become overloaded, thus interfering with the learning process.

Reflection principle. Effective learning depends on providing opportunities for students to reflect upon their actions and what they have learned. An example of how to implement this would be to ask students to demonstrate what they have learned by answering a quiz question. The xeriscaping tutorial will include quizzes.

Feedback principle. The effectiveness of a multimedia learning application is dependent upon the quality of system feedback and prior knowledge held by the learner. The xeriscaping tutorial will use the feedback principle during quizzes.

Pacing principle. Students learn more efficiently when they are allowed to control the pace of the multimedia presentation. The Xeriscaping tutorial shall include features that allow learners to navigate and control the pace of the tutorial presentation. Learners determine how best to navigate the presentation, and it is designed with a menu that allows the learner to access information on that topic presented as text and as rollover options available throughout the tutorial. This tutorial will be sequential, but learners have the option of exiting, and returning to the menu or quiz section in order to accommodate their needs.

Pre-training principle. Students tend to learn more efficiently when they receive relevant training before starting the multimedia learning application. The Xeriscaping tutorial will include a printed Learner's Guide with instructions detailing how to start and complete the tutorial.

Cognitive overload reduction guidelines. Cognitive overload occurs when the learner's cognitive processing is greater than their available cognitive capacity. To avoid cognitive overload, the xeriscaping tutorial will incorporate the use of these guidelines:

- Pair animation with narration. Do not pair animation with text.

- Include only essential information that does not distract the learner from the learning concept. Or, provide clues via color, heading, graphics, and so on to highlight essential information.

- Align words and pictures closely together so that the learner can identify essential information. Place essential information at the top of the page and less important information toward the bottom of the page.

Alpha and Beta Testing

Allessi and Trollip (2001) recommend performing tests on multimedia tutorial programs to ensure proper functionality and quality. Alpha and Beta tests are two types of testing procedures that are designed to find and eliminate as many problems with the xeriscaping tutorial as possible.

Alpha Testing

Alpha tests are performed against prototype programs, usually by several people including members of the development team, Instructional Designers, subject matter experts (SMEs), and other staff familiar with the tutorial content. Feedback obtained from the Alpha test is then incorporated into the program as the initial set of revisions.

Alpha testing covers tutorial content, flow, ability to handle errors ("robustness"), and project standards, as described in the following Alpha testing procedure.

1. Verify the tutorial against the Style Guide (see Table 2). These style standards

   establish the look and feel of the tutorial as wells as the writing style conventions

   and program functionality.

2. Verify each item on the evaluation form (see Table 3).

3. On the evaluation form, note whether each item is acceptable or needs work.

   Provide comments to explain your evaluation.

4. Verify tutorial robustness by doing unexpected actions such as:

   - Pressing keys not noted on the screen.

   - Clicking areas of the screen that do not appear to be active.

   - Answering quiz questions incorrectly to verify correct feedback.

Table 2

Style Standards

LOOK AND FEEL	
Multimedia elements	Text, photographs, background sound, audio narration
Levels of Headings	Two
Title Page Font	Arial Rounded MT Bold, 48, white (#FFFFFF), centered
Screen Heading Font	Arial Rounded MT Bold, 36, white (#FFFFFF), centered
Text Font	Arial Rounded MT Bold, 18, 20, 24 Arial, regular, bold, 16, 20, 24
Background	Wood Grain Theme/Blank, Caption, Caption & Content Left, Quiz
Use of color	Text: white (#FFFFFF), Text: black (#000000), Drag & Drop box: Green (#008000) Text: brown (#A52A2A) Graphic Rain Drop and Arrow: Cyan/Aqua (#00FFFF) Mouse: Cyan/Aqua (#00FFFF), Lime #00FF00 Theme Wood Grain: brown (#A52A2A) Website link: blue (#0080FF)
Overall screen layout	800x600
Menus	Help Menu, Tutorial Topics Menu
Navigation Buttons	Look and placement of buttons: Text: Help, Menu, Back, Exit, Next, Quiz Menu, Clear, Submit, Review, white (#FFFFFF) Graphic: Rain Drop, Color: Cyan/Aqua (#00FFFF) Placement: Bottom of screen
Graphics	Rain drop, mouse, arrow, sun, sun chart, budget, Quizzes?, landscape plan design, butterfly
Photographs	Xeriscaping plants, flowers, shrubs, cacti/hummingbird, trees, hardscape, garden tools, soil and amendments, mulch, rock, irrigation/sprinklers
Sound	Background4.mp3 (In the field, Eden)
Typographical Symbol (Bullet)	❖ Black (#000000), white (#FFFFFF), Arial, Regular, 16

Table 2 (continued)

Style Standards

STYLE CONVENTIONS	
Grammar	English-based
Punctuation and spelling	Standard English
Use of serial comma	Required
Reading level	Eight grade
Language	Direct, second person, active voice, present tense

FUNCTIONALITY	
Screen size	800 x 600 swf file
Keyboard shortcuts	None
Keyboard buttons	None

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 466, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Table 3

Alpha Testing Evaluation Form

EVALUATION FORM

Program: _____

Reviewer: _____   Date:_____

Item	Acceptable	Needs Work	Comments
Subject matter			
Matches goals			
Content structure			
Content accuracy			
Language, style, grammar			
Reading level			
Cultural bias - language			
Cultural bias - reference			
Technical terms and jargon			
Spelling, grammar, and punctuation.			
Glossary			
Hot words			

Auxiliary information			
Introduction			
Directions			
Help			
Conclusion			

Affective considerations			
Motivation			

Table 3 (continued)

Alpha Testing Evaluation Form

Item	Acceptable	Needs Work	Comments
Interface			
Displays			
Presentation modes			
Text quality			
Animation and graphics			
Audio			
Video			
Input			
Spacing			

Navigation			
Navigation aids			
Consistency			
Restarting			
Passive bookmarking			
Active bookmarking			

Pedagogy			
Methodologies			
Interactivity			
Cognitive capacity			
Cooperative learning			
Learning metaphor			
Learning strategies			
User control			
Questions			
Answering questions			
Quality of feedback			
Format of feedback			
Mastery level			

Table 3 (continued)

Alpha Testing Evaluation Form

Item	Acceptable	Needs Work	Comments
Invisible features			
Records and data			
Security and accessibility			
Too much data			
Robustness			
For normal user actions			
For unusual user actions			
On different computers, software, and browsers			
Supplementary materials			
Learner's manual			
General aspects			
Program operation			
Program content			
Auxiliary materials			
Other resources			

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 415-417, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Beta Testing

After the initial revisions are made to an Alpha-tested program, the program then undergoes Beta testing, which is performed collaboratively with clients or with learners that possess the same characteristics as the target audience. For this test, developers participate in the testing process by:

- Helping to choose testers who have the same characteristics of the users of the final tutorial program.

- Explaining the purpose of the test and how the testing should take place. The explanation should include instructions for using the Style Guide and Evaluation Form as part of the testing process.

- Determining the prior knowledge and learning abilities of each tester. This information is useful when data from the test is evaluated.

- Observing or videotaping the testers as they use the tutorial program. Their body language can reveal the points at which they are having difficulties, which are areas that can be improved in the tutorial.

- Interviewing testers after testing is complete to obtain their opinions about the tutorial. Questions should be directed at the content of the tutorial as well as its operation. The response to the questions by the testers should reveal other areas of improvement.

- Assessing how much testers learned. The ultimate test of a tutorial program is how much each tester learned. This can be achieved by giving a written or oral exam after testing is complete.

Feedback from Beta testing will be incorporated into the tutorial as the final set of revisions, resulting the final product that is ready for delivery.

Validation: Assessing the Tutorial's Results

Despite all of the Alpha and Beta testing we might perform, it is difficult to approximate real-world results of any learning product until data is collected after target learners complete the tutorial. This evaluation of real Sterling Heights HOA residents (as opposed to testers who merely approximated the target learners), after the tutorial is distributed, is known as summative evaluation (Alessi & Trollip, 2001). Although it is important to perform a summative evaluation at the end of any project (otherwise, it is difficult to accurately gauge the outcome of the program), learner follow-up can be challenging, and requires an entirely different set of measurement tools, so it is not always performed. Kirkpatrick proposes four levels of evaluation: Level 1 addresses whether the learner enjoyed the program; Level 2 addresses how well the learning objectives were met; Level 3 addresses whether learners can apply what they've learned to the intended settings; and Level 4 addresses whether the program goals were accomplished and if the tutorial was worth the cost to the Client. Level 1 is generally the easiest to collect data on and evaluate, while Level 4 is often the most difficult.

Once a sufficient number of learners have indicated that they have completed the tutorial, we will begin data collection (estimated to be approximately two to four months after tutorial distribution) via a written survey questionnaire, one in-person focus group meeting, and a neighborhood walk-through performed by the Association. Participants will be randomly selected to participate (in order to reduce bias, and to better approximate all learners). This way, we may better generalize from this small sample to the entire set of learners. In order to encourage participation, the Client may offer some nominal incentive for homeowners to complete the entire evaluative process. We discuss each of Kirkpatrick's four levels, below:

- Level 1: Learners will respond to a survey measuring level of satisfaction and enjoyment of the tutorial. This will be accomplished via a questionnaire that will be distributed to the mailboxes of select participants and mailed to the HOA offices.

- Level 2: Learners will describe what they learned after completing the tutorial, including steps for planning a xeriscape yard, what is required for amending soil, how to estimate the costs associated with xeriscape conversion, etc. This will be accomplished via the same questionnaire as in Level 1.

- Level 3: Learners will describe what, if any, actions they have taken towards modifying their yards based on xeriscape principles, and/or their willingness to do so. Additionally, the evaluation participants will meet in a focus group at a pre-selected area within the Sterling Heights neighborhood park, where a xeriscape expert will help them actually do some xeriscape gardening. Each participant will be evaluated on different measures related to their competency level with this.

- Level 4: The Client will evaluate whether the xeriscape tutorial was successful at informing learners about their landscaping options by providing a survey questionnaire, as well as completing walk-throughs of the neighborhood (at two weeks, four weeks, two months, and four months after tutorial launch), with special emphasis on the yards of the evaluation participants. They will be looking for changes to the yards, compared to how the yards looked before the tutorial, in keeping with xeriscape principles. The Client will report this data to us.

By completing these measures, we may collect data and perform a summative evaluation in order to understand the true effectiveness of the xeriscaping tutorial.

Project Management

Development Model

The xeriscaping tutorial will be developed using the ADDIE design model. This name is an acronym for the following phases of the Instructional Design process: Analysis, Design, Development, Implementation, and Evaluation. The ADDIE model is a proven approach that is highly effective for instructional design (Branch & Merrill, n.d.). Tasks associated with each phase of the ADDIE development model are shown in Table 4.

Development Team

The xeriscaping tutorial shall be developed by the Designing Divas team. This team includes Linda Hagen, Julie McHam, and Michelle Walker. The team leader, Michelle Walker, is responsible for maintaining project schedules, coordinating team activity, and monitoring the timely completion of tasks.

Development Responsibilities

Successful projects require a balance of work that enables quality learning objects to be completed efficiently and within budget and scheduled time frames. Table 4 also identifies the team member primarily responsible for each development task.

Project Schedule

The Design Divas shall produce the Xeriscaping tutorial following the timeline, as presented in Table 5.

Table 4

Team Tasks and Responsibilities based on ADDIE Development Model

ANALYSIS PHASE			
Assignment	**Michelle**	**Linda**	**Julie**
Define scope	X		
Identify learner characteristics	X		
Write learning objectives	X		
Describe Pedagogy	X		
Determine assessment methods	X		
Establish constraints			X
Determine delivery options			X
Create project timeline			X
Create project management chart			X
Create team assignment and responsibilities chart			X
Draft budget			X
Determine look and feel		X	
Develop style guide		X	

DESIGN PHASE			
Assignment	**Michelle**	**Linda**	**Julie**
Develop initial content ideas		X	
Create flowchart		X	
Create storyboards		X	
Prepare prototype		X	

Table 4 (continued)

Team Tasks and Responsibilities based on ADDIE Development Model

DEVELOPMENT PHASE			
Assignment	**Michelle**	**Linda**	**Julie**
Prepare the tutorial text		X	
Create/locate graphics		X	
Create quizzes		X	
Create audio	X		
Assemble the pieces		X	
Prepare support materials (learner's guide)			X
Do Alpha test			
Do Alpha test	X		
Make revisions		X	
Do Beta test			X
Make revisions		X	
Publish tutorial	X		

IMPLEMENTATION PHASE			
Assignment	**Michelle**	**Linda**	**Julie**
Deliver final tutorial to client	X		
Deliver hardcopy course instructions	X		
Comments: The Implementation phase also includes monitoring learner reactions to the tutorial and associated material and collecting feedback. However, these activities are outside the scope of this assignment.			

Table 4 (continued)

Team Tasks and Responsibilities based on ADDIE Development Model

EVALUATION PHASE			
Assignment	**Michelle**	**Linda**	**Julie**
Comments: The Evaluation phase includes reviewing all ADDIE phases for continual improvement, adjusting strategies in the tutorial based on feedback received from client and learners, and revising elements within the tutorial as needed. However, these activities are outside the scope of this assignment.			

Table 5

Project Management Schedule

Date	Item	Details
5/5/2015	Team Formation	Meet online to choose team name, leader, and topic.
5/10/2015	Team topic due	Post team topic in online forum.
5/16/2015	Team meeting	Review tutorial topic, brainstorm, and assign tasks.
5/23/2015	Team meeting	Review each team member's progress, re-assess task assignments.
5/23/2015-5/29/2015	Development	Work on assigned project tasks; team review and discussion on Freedcamp.
5/30/2015-5/31/2015	Finalize Project Plan	Finalize all pieces and make any necessary changes.
5/31/2015	Submit project plan	Upload finalized project plan to online forum.
5/31/2015	Team meeting	Review prototype development and upcoming project needs.
6/1/2015	Prototype development	Start prototype development.
6/1/2015 – 6/2/2015	Develop introduction	Insert content and graphics onto introductory slides (Splash, Sign-In, Directions, Menu).
6/3/2015 – 6/5/2015	Develop tutorial slides	Insert content and graphics onto tutorial pages.

Table 5 (continued)

Project Management Schedule

Date	Item	Details
6/6/2015 – 6/7/2015	Develop quizzes	Develop matching and drag-and-drop quiz slides.
6/8/2015 – 6/10/2015	Audio, video, navigation	Insert audio and video components. Verify standard navigation.
6/11/2015 – 6/14/2015	Revisions	Test and revise all components to finalize prototype.
6/14/2015	Prototype	Deliver prototype for Alpha review
6/14/2015	Team meeting	Assign Alpha testing tasks
6/15/2015 – 6/21/2015	Alpha testing	Initial Testing of Prototype
6/21/2015	Alpha test evaluation	Submit Alpha evaluation
6/22/2015 – 7/5/2015	Revisions	Initial revisions based on Alpha evaluation
7/5/2015	Beta program	Deliver Beta program for review
7/5/2015	Team meeting	Assign Beta testing tasks
7/6/2015 – 7/12/2015	Beta testing	Testing of Beta program
7/12/2015	Beta test evaluation	Submit Beta evaluation
7/13/2015 – 8/2/2015	Revisions	Final revisions based on Beta evaluation
8/2/2015	Final delivery	Deliver final program, all necessary files, and learner's guide

Budget

Developing a budget early in the project management process not only enables you to estimate the cost of the project, but it also helps to manage resources, identify overall program characteristics, and provides some level of understanding regarding how the project should be managed (Alessi & Trollip, 2001). Table 6 presents the estimated budge for the xeriscaping tutorial.

Table 6

Costing Guide

Content Acquisition			
Activity	**Hours**	**$ per Hour**	**Cost**
Gather informational content	6	$39	$234
Gather graphics, photographs	6	$39	$234
Decide on content to include	4	$39	$156
Total	**16**	**$39**	**$624**

Development of Standards			
Activity	**Hours**	**$ per Hour**	**Cost**
Identify and agree upon standards	2	$39	$78
Write style guide	4	$39	$156
Total	**6**	**$39**	**$234**

Scripting			
Activity	**Hours**	**$ per Hour**	**Cost**
Write narration script	6	$39	$234
Total	**6**	**$39**	**$234**

Table 6 (continued)

Costing Guide

Screens			
Activity	**Hours**	**$ per Hour**	**Cost**
Introductory screens	10	$39	$390
Tutorial content screens	20	$39	$780
Quiz screens	20	$39	$780
Total	**50**	**$39**	**$1950**

Underlying Models			
Activity	**Hours**	**$ per Hour**	**Cost**
N/A	0		$0.00
Total	**0**		**$0.00**

Graphics			
Activity	**Hours**	**$ per Hour**	**Cost**
Water droplet	5	$39	$195
Total	5		$195

Video			
Activity	**Hours**	**$ per Hour**	**Cost**
N/A	0		$0.00
Total	**0**		**$0.00**

Audio			
Activity	**Hours**	**$ per Hour**	**Cost**
Record audio narration	4	$39	$156.00
Production costs (recording studio)	2	$150	$300
Voice actor	1	$150	$150
Total	7		**$606**

Table 6 (continued)

Costing Guide

Interactions			
Activity	**Hours**	**$ per Hour**	**Cost**
Drag-and-drop quiz slides	6	$39	$234
Total	**6**	**$39**	**$234**

Data Collection			
Activity	**Hours**	**$ per Hour**	**Cost**
Summative Evaluation	70	$39	$2,730
Total	70		**$2,730**

Bookmarking			
Activity	**Hours**	**$ per Hour**	**Cost**
N/A	0		$0.00
Total	**0**		**$0.00**

Record Keeping			
Activity	**Hours**	**$ per Hour**	**Cost**
Set Up & Maintain Data Collection Storage	10	$39	$390
Total	**10**	**$39**	**$390**

Log On and Registration			
Activity	**Hours**	**$ per Hour**	**Cost**
Capture learner name	1	$39	$39
Total	1	$39	**$39**

Associated Electronic Performance Support System (EPSS)			
Activity	**Hours**	**$ per Hour**	**Cost**
N/A	0		$0.00
Total	**0**		**$0.00**

Table 6 (continued)

Costing Guide

Software Testing			
Activity	**Hours**	**$ per Hour**	**Cost**
Alpha testing	9	$39	$351
Beta testing	9	$39	$351
Total	**18**	**$39**	**$702**

Project Management			
Activity	**Hours**	**$ per Hour**	**Cost**
Write project plan	10	$39	$390
Ensure timelines and deadlines	2	$39	$78
Total	**12**	**$39**	**$468**

Clerical			
Activity	**Hours**	**$ per Hour**	**Cost**
Developing forms	4	$39	$156
Word processing	4	$39	$156
Total	**8**	**$39**	**$312**

Packaging			
Activity	**Hours**	**$ per Hour**	**Cost**
N/A – tutorial run online	0		$0.00
Total	**0**		**$0.00**

Manuals/Instructions			
Activity	**Hours**	**$ per Hour**	**Cost**
Help/Directions screen	2	$39	$78
Learner's Guide (hardcopy)	4	$39	$156
Reviews	2	$39	$78
Total	**8**	**$39**	**$312**

Table 6 (continued)

Costing Guide

Travel			
Activity	**Hours**	**$ per Hour**	**Cost**
Picking up supplies, etc.	20	$39	$780
Total	**20**	**$39**	**$780**

Other Out-of-Pocket Expenses			
Activity	**Hours**	**$ per Hour**	**Cost**
N/A	0		$0.00
Total	**0**		**$0.00**

Overhead			
Activity	**Hours**	**$ per Hour**	**Cost**
Questionnaire Supplies (paper, printer, stapler, staples, usb drive)	0		$255
Total	**0**		**$255**

Taxes			
Activity	**Hours**	**$ per Hour**	**Cost**
Questionnaire Supplies (8.75%)	N/A	N/A	$22.31
Total			**$22.31**

Project Summary			
Activity	**Hours**	**$ per Hour**	**Cost**
Total salaried expenses ($39/hour)	231	$39	$10,065
Total non-salaried expense (N/A)	0		$0.00
Total tax			$22.31
Total			$10,087.31
TOTAL COSTS	**$10,087.31**		

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 456, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Constraints

Constraints are "all the issues that will impact the design and development of the project, as well as the delivery and operation of the final product" (Allesi & Trollip, 2001, p. 442). This section of the project plan identifies all the constraints that could impact the delivery of the xeriscape tutorial.

Hardware and Software Constraints

Hardware and software constraints include minimum system requirements and versions of operating systems, Internet browsers, and plug-ins that are required to run the xeriscape tutorial. Table 7 lists these hardware and software constraints.

Budget Constraints

Budget constraints are situations where not meeting the budget could impact the delivery of the xeriscaping tutorial. For example, if the client does not pay as agreed, the project may be halted. Budget constraints are listed in Table 8.

Timeline Constraints

All projects must meet certain deadlines in order to ensure the final product will be delivered as agreed. Meeting milestone dates during the course of development helps to ensure the final project deadline will be met. Table 9 lists these milestones as timeline constraints.

Developer/Client Responsibilities

When developing a program for a client, there are times when the client must supply materials, information, approvals, and money to complete the project. The points at which the client is needed to interact with the Development team to complete the project are listed in Table 10.

Table 7

Hardware and Software Constraints

HARDWARE CONSTRAINTS	
Computers: Windows	**Detail and Comments**
RAM	2GB of RAM minimum (4GB recommended)
Screen resolution	1024x768 display (1280x1024 recommended)
Video card	16-bit required
Sound card	Required
Speakers or headphones	Required
Network	Internet Service Provider (ISP) or Intranet
Processor	1GHz or faster Intel Pentium 4, Intel Centrino, Intel Xeon, or Intel Core Duo (or compatible) processor
Hard drive capacity	5GB of available hard-disk space for installation; additional free space required during installation (cannot install on removable flash-based storage devices)
DVD-ROM drive	Required
Internet connection	Broadband
Modem speed	54 kb/s
Computers: MAC OS	**Detail and Comments**
RAM	2GB of RAM minimum (4GB recommended)
Screen resolution	1024x768 display (1280x1024 recommended)
Video card	16-bit required
Sound card	Required
Speakers or headphones	Required
Network	Internet Service Provider (ISP) or Intranet
Processor	Multicore Intel processor
Hard drive capacity	5GB of available hard-disk space for installation; additional free space required during installation (cannot install on a volume that uses a case-sensitive file system or on removable flash-based storage devices)
DVD-ROM drive	Required
Internet connection	Broadband
Modem speed	54 kb/s

Table 7 (continued)

Hardware and Software Constraints

SOFTWARE CONSTRAINTS	
Computers: Windows	**Detail and Comments**
Operating system	Microsoft Windows 7 with Service Pack 1, Windows 8, or 8.1
Browsers	Internet Explorer – ActiveX Internet Explorer (Windows 8.x) – ActiveX Firefox, Mozilla – NPAPI Chrome (embedded), Opera, Chromium-based browsers - PPAPI
Media plug-ins	Adobe Flash Player (most recent version) for viewing multimedia content
Network	N/A
Authoring system	Adobe Captivate 8
Testing system	N/A
Other	N/A
Computers: MAC OS	**Detail and Comments**
Operating system	Mac OS X v10.9; iOS 7.0.6, iOS 8.0.2 (for iPad)
Browsers	Firefox, Safari – NPAPI Chrome (embedded), Opera, Chromium-based browsers - PPAPI
Media plug-ins	Adobe Flash Player (most recent version) for viewing multimedia content
Network	N/A
Authoring system	Adobe Captivate 8
Testing system	N/A
Other	N/A

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 445, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Table 8

Budget Constraints

BUDGET CONSTRAINTS	
Total Available Budget	**$10,087.31**
Payment Schedule:	$
Payment 1: Half of total due at start of project.	
Payment 2: Final payment due upon delivery of project.	
Refer to Table 5 for budget details.	

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 447, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Table 9

Timeline Constraints

TIMELINE CONSTRAINTS	
Final Deadline	**8/2/2015**
Intermediate Deadlines	
Deadline 1: Delivery of project plan	5/31/2015
Deadline 2: Delivery of Alpha prototype	6/14/15
Deadline 3: Alpha testing complete	6/21/15
Deadline 4: Delivery of Beta program (includes revisions from Alpha testing)	7/5/2015
Deadline 5: Beta testing complete	7/12/15
Deadline 6: Final project delivery (includes revisions from Beta testing)	8/2/15

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 447, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Table 10

Client and Developer Responsibilities

CLIENT AND DEVELOPER RESPONSIBILITIES	
Item	**Primary Contact Person**
Contract negotiation/legal	Michelle Walker
Project coordination	Julie McHam
Subject-matter (Name SME contacts, availability, and all other constraints)	Linda Hagen
Assets (video, audio, artwork)	Linda Hagen
Technical (hardware, networks, webmaster)	Linda Hagen
Billing	Michelle Walker
Required actions:	
Providing materials	
Item 1: Content for development	Michelle Walker
Item 2: Project needs	Julie McHam
Item 3: Flowchart and initial layout	Linda Hagen
Required reviews and turn-around	
Review 1: Project schedule	Michelle Walker
Review 2: Project plan	Michelle Walker
Review 3: Alpha (prototype) version	Michelle Walker
Review 4: Beta version	Michelle Walker
Review 5: Final version	Michelle Walker
Required client actions	
Action 1: Project plan sign-off	6/8/2015
Action 2: Alpha (prototype) sign off	6/21/2015
Action 3: Beta version sign off	7/12/2015
Action 4: Final delivery	8/2/2015
Invoice payments:	
Payment 1	6/8/2015
Payment 2	8/2/2015

Note: Adapted from *Multimedia for Learning: Methods and Development of Book* (3rd ed.), p. 448, by S. M. Alessi and S. R. Trollip, 2001, Needham Heights, MA: Pearson.

Support and Supplementary Materials

Design and Planning Resources

Adobe. (2015a). *Adobe captivate 8 tech specs*. Retrieved from

http://www.adobe.com/products/captivate/tech-specs.html

Adobe. (2015b). *Adobe flash player*. Retrieved from

http://www.adobe.com/software/flash/about/

Alessi, Stephen M. & Trollip, Stanley R. (2001). *Multimedia for Learning: Methods and*

Development (3rd ed.). Needham Heights: Pearson Education.

Branch, R. M. & Merrill, M. D. (n.d.). Characteristics of instructional design models. In R. A.

Reiser & J. V. Dempsey (Eds.), *Trends and issues in instructional design and technology*

(3rd ed.) (p. 8-16). Boston, MA: Pearson.

Click4it (2014). *A.d.d.i.e. model*. Retrieved from

http://www.click4it.org/index.php/A.D.D.I.E_Model

Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction*. *Cognitive*

Science, 5(4), 333-369.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L.M. (2007*). Learning in adulthood: A*

comprehensive guide (3rd ed.). San Francisco: Jossey-Bass.

The National Drought Mitigation Center. (2015). [Graphic illustration of the regional drought in

the U.S. West May 19, 2015]. *U.S. Drought Monitor.* Retrieved from

http://droughtmonitor.unl.edu/Home/RegionalDroughtMonitor.aspx?west

Vipond S., & Clarey J. (2015). *2015 global elearning salary & compensation report.* Santa Rosa,

CA: The eLearning Guild.

Content Resources

http://www.landscapingnetwork.com/Xeriscape-landscaping/

http://www.wikihow.com/Landscape-a-Large-Yard

http://austinnativelandscaping.com/

http://www.homewyse.com/costs/cost_of_drip_irrigation_systems.html

http://highpointcolorado.com/news/xeriscape-principle-5-plating-zones-in-your-yard/

http://www.wikihow.com/Xeriscape

http://www.calrecycle.ca.gov/organics/xeriscaping/

http://aggie-horticulture.tamu.edu/extension/xeriscape/xeriscape.html

http://www.bing.com/videos/search?q=how+to+create+a+xeriscape+garden&FORM=HDRSC3#view=detail&mid=7FD4F10CF168075A065E7FD4F10CF168075A065E

http://www.lawn-and-gardening-tips.com/planting-zones.html#chart

https://www.youtube.com/watch?v=a1h9pPF8Rf8

http://www.landscapingnetwork.com/plants/xeriscape.html

https://www.pinterest.com/explore/xeriscaping/

 http://www.wikihow.com/Propagate-Succulent-Plant-Cuttings

http://planthardiness.ars.usda.gov/PHZMWeb/

http://www.homewyse.com/costs/cost_of_drip_irrigation_systems.html

http://www.hgtv.com/design/outdoor-design/landscaping-and-hardscaping/20-wow-worthy-hardscaping-ideas-pictures

Tutorial Flowchart
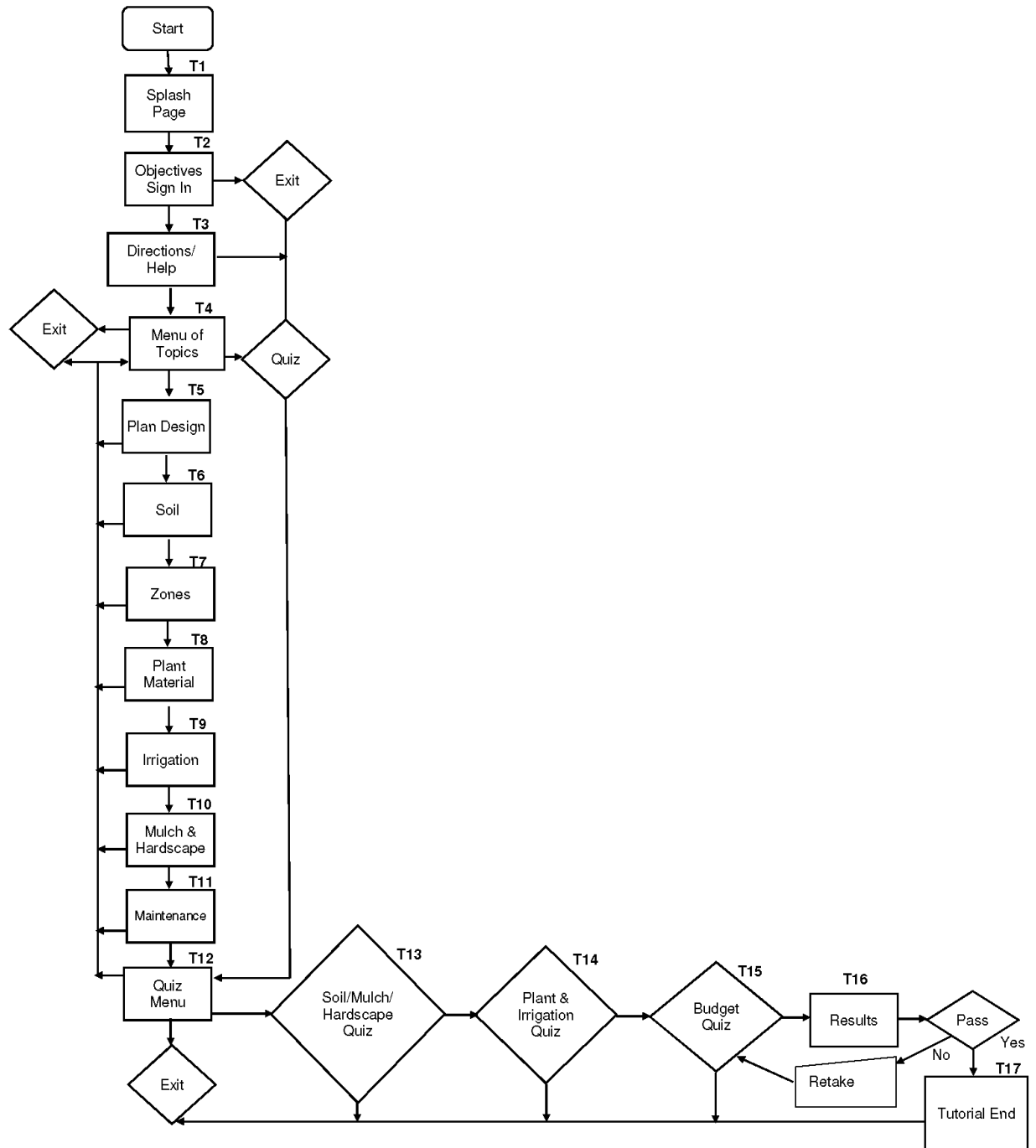
T1

Formatting
Heading Text Font: Arial Rounded MT Bold, 48, white (#FFFFFF), centered, bottom of page
Effect: EaseInBottom, Timing: Appear after 12 sec
Body Text Font: Arial Rounded MT Bold, 22, white (#FFFFFF)
All Text Display For: Rest of slide

Narration
Audio information to present (TBD)

Navigation
Transition automatically to next page: T2

Graphics/Media
Insert graphic placement as shown
Rain Drop, Cyan/Aqua (#00FFFF)
Plant graphics use EaseIn Effect (Captivate 8)
Timing : All Display Rest of Slide

Pictures first row from left to right:
1. EaseInLeft, Timing: Appear after 0 sec
2. EaseInBottom, Timing: Appear after 1 second
3. EaseInRight, Timing: Appear after 3 sec

Pictures second row from left to right:
1. EaseInTop, Timing: Appear after 6 sec
2. EaseInBottom, Timing: Appear after 4 sec

Pictures third row from left to right:
1. EaseInRight, Timing: Appear after 10 sec
2. EaseInTop, Timing: Appear after 8 second
3. EaseInLeft, Timing: Appear after 5 second

Picture fourth row:
1. Jasmine, Timing: Appear after 11 sec
2. Butterfly, Emphasis Falling Leaves Effect applied

Timing: Appear after 11 sec Butterfly

3. Rain drop, EaseInBottom, Cyan/Aqua (#00FFFF)

Timing: Appear after 12 sec

Sound: Background4.mp3

Background : Wood Grain Theme/Blank

Notes:
This project will be created in Captivate 8
Create a blank project – Width 800/Height 600
For entire tutorial, background used will be Wood Grain Theme (Captivate 8) Wood Grain theme slide type will be specified on each page
Rain drop will be displayed on each page as navigation buttons as indicated or as shown for each page
Sound: Each page has Background4.mp3 (In the field, Eden). Loop option will be specified when used on specific pages
All graphics be provided separately
Time Duration: 17 sec (estimated)

T2
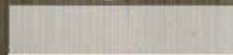
Formatting
Text Font: Arial Rounded MT Bold, 28, white (#FFFFFF), centered
EaseInBottom Effect
Timing: Appear after 1 sec
Text Display: Rest of slide

Narration
Audio information to present (TBD)

Instruction text
Insert Text Caption: Sign In (variable)
Font: Arial Rounded MT Bold, 28, bold, white (#FFFFFF)
Insert Text Entry box (Where name is typed in)
Font: Arial, 20, bold, black (#000000)
Interactions Button Text: Submit
Interactions Button Text: Exit
Arial, 20, bold, white (#FFFFFF), Fill solid, white, opacity %0
Timing: Appear after 3 sec
Display For: Rest of slide

Graphics/Media
Insert graphic placement as shown
Timing: Appear after 2 sec
Display For: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back

Navigation
Sign In, Submit Button to: T3
Exit Button to: Exit

Sound: Background4.mp3

Background : Wood Grain Theme/Blank

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 17 sec (estimated)

T3

Getting Help

Welcome $$UserName$$

This tutorial will take you through a basic plan
on how to get started xeriscaping your yard.

Locate the rain drops at the bottom of each screen.
These buttons will help to navigate you through the
tutorial.

Topics that have the mouse icon indicate that there
are rollover tips on that graphic.

Click the Help
button to return
to Getting Help

Click the Menu
button to return
to the tutorial
topics

Click the Exit
button to exit
the tutorial

Click the Back
button to go to
the previous
screen

Click on Next
button to go the
next screen

Help　　Menu　　Exit　　Back　　Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF),
centered
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Informational text
Text Font: Arial Rounded MT Bold, 24, white (#FFFFFF)
Text Font (Click): Arial Rounded MT Bold, 18, white (#FFFFFF)
All Timing: Appear after 0 sec
All Display For: Rest of slide
Interactions Button Text: Submit
Arial Rounded MT Bold, 20, bold, white (#FFFFFF). Fill solid,
white, opacity %0

Graphics/Media
Insert all graphic placement as shown
Timing: Appear after 0 sec
Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: (Menu, Exit, Back, Next)
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Arrows (Captivate shape) Fill solid, Cyan/Aqua (#00FFFF),
opacity 100%
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Navigation
Menu Button to: T4
Exit Button to: Exit
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3
Background : Wood Grain Theme/Caption

Notes:
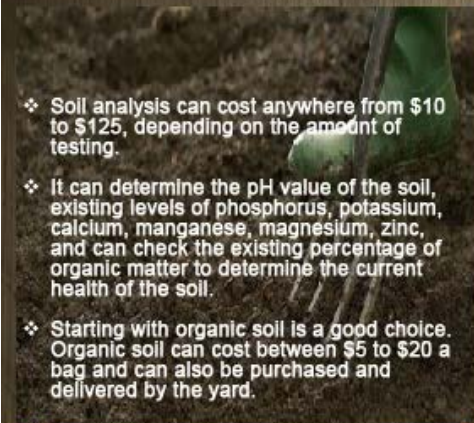Sound: Background4.mp3, Check Loop Audio
Time Duration: 1 minute (estimated)

T4

The Basics Of Xeriscaping

Plan Design ← Click the descriptions to learn about each topic

Soil

Tutorial Topics Menu

Plant Material

Zones

Irrigation

Mulching & Hardscape

Maintenance

Help   Exit   Back   Next

Quizzes ← After reviewing each topic, test your knowledge by taking the quizzes

Notes:
Menu page. Text captions (Plan, Soil, Plant, Zones, Irrigation, Mulch, Maintenance, Quizzes), are all links to new pages with information on each topic.
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-2 minutes (estimated)

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Align left

Informational Text
Text Font: (Tutorial Topics Menu) Arial Rounded MT Bold, 36, white (#FFFFFF)
Informational Text: Arial Rounded MT Bold, 18, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Instruction Text Links:
Interactions Button Text: (Plan & Design, Soil Amendment, Zones, Plant Material, Irrigation, Mulching & Hardscape, Maintenance, Quizzes)
Arial Rounded MT Bold, 24, white (#FFFFFF)
All Timing: Appear after 0 sec
All Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Arrows (Captivate shape) Fill solid, Cyan/Aqua (#00FFFF), opacity 100%

Navigation
Plan & Design Button to: T5, Soil Amendment Button to: T6
Plant Material Button to: T7, Zones Button to: T8,
Irrigation Button to: T9, Mulching & Hardscape Button to: T10
Maintenance Button to: T11, Quizzes Button to: T12
Help Button to: T3, Menu Button to: T4, Exit Button to: T1
Back Button to: Previous Page, Next Button to: Next Page

Sound: Background4.mp3
Background: Wood Grain Theme/Caption

T5

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Information Text
Text Font: Add bullet, Arial,16, bold, white (#FFFFFF)
On graphic rollover text caption:
Add bullet, Arial, 16, bold, black (#000000)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-2 minutes (estimated)

T6

Soil

- Soil analysis can cost anywhere from $10 to $125, depending on the amount of testing.
- It can determine the pH value of the soil, existing levels of phosphorus, potassium, calcium, manganese, magnesium, zinc, and can check the existing percentage of organic matter to determine the current health of the soil.
- Starting with organic soil is a good choice. Organic soil can cost between $5 to $20 a bag and can also be purchased and delivered by the yard.

Roll over the graphic for budget tips

- Ideal soil has aeration and drainage, yet holds adequate moisture and nutrients for optimum root growth.
- An important aspect of xeriscape gardening includes performing a soil analysis to make sure the soil is adequate to absorb water and hold nutrients.
- Soil drainage is an important consideration. Check your soil drainage by digging a hole 12" to 15" deep to examine the soil.
- A soil analysis will help you determine what measures may be required to amend your soil to add nutrients and adequate drainage.
- Adding amendments as needed, such as compost, lime, sand, and phosphate will help the continued health of your soil and growth of your plants.

Help   Menu   Exit   Back   Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Information Text
Text Font: Add bullet, Arial,16, bold, white (#FFFFFF)
On graphic rollover text caption:
Add bullet, Arial, 16, bold, white (#FFFFFF)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit (out of tutorial)
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-2 minutes (estimated)

T7

Plant Material

Plants can range in price and cost. The average project will cost anywhere from $300 or more.

Consider purchasing plants in small containers and then letting them mature, but be sure to be aware of their growth height and width.

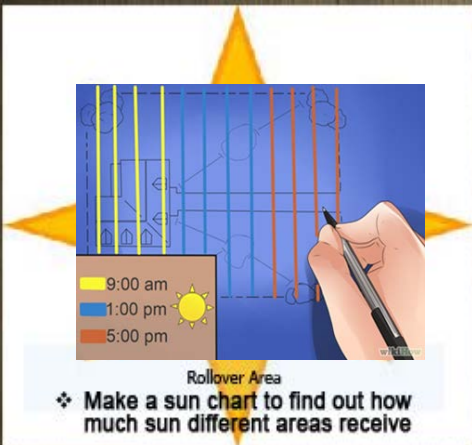Roll over the graphic for budget tips

By researching and refining the various possible plant selections, you will learn their specific planting and blooming periods, height and growth potential, plant temperaments, soil requirements, and watering needs. Select trees, shrubs and ground covers based on their adaptability to your region's soil and climate.

To be water efficient, lawn and turf grass should be planted only where it is considered functional. Alternatives to turf grass include synthetic turf, ground covers, mulched areas, decks, and paved surfaces.

Top 10 Xeriscape Plant List

Find xeriscape plant photos and then take them to your local garden center for selection

Many plants and succulents can be propagated to save money

Help   Menu   Exit   Back   Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Information Text
Text Font: Add bullet, Arial,16, bold, white (#FFFFFF)
(Website Hyperlink) (#0080FF)
On graphic rollover text caption:
Add bullet, Arial, 16, bold, white (#FFFFFF)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit (out of tutorial)
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 2-4 minutes (estimated)

T8

Zones

Knowing the zones in your yard will allow you to maximize sun exposure, water usage, and water waste.

Xeriscaping is all about matching the plants to the existing environment.

Know your climate. Look up your area's Hardiness Zone on the USDA website.

Designate your oasis zones. These areas will receive the most water and attention, so you can select plants that require more frequent watering.

Transition zones surround the oasis zones with plants that fall in the middle of the spectrum in terms of water, sunlight needs, and visibility.

Arid zones are areas exposed to many hours of sunlight, have dry soil, or are located in out-of-the-way areas.

Consider growing plants within containers to maximize water retention.

9:00 am
1:00 pm
5:00 pm

Rollover Area

Make a sun chart to find out how much sun different areas receive

Roll over the graphic for a zone tip

Help   Menu   Exit   Back   Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Sun chart: Use rollover graphic, Arrange: Send to back

Information Text
Text Font: Add bullet, Arial,16, bold, white (#FFFFFF)
(Website Hyperlink) (#0080FF)
On graphic rollover text caption:
Add bullet, Arial, 16, bold, black (#000000)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit (out of tutorial)
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3
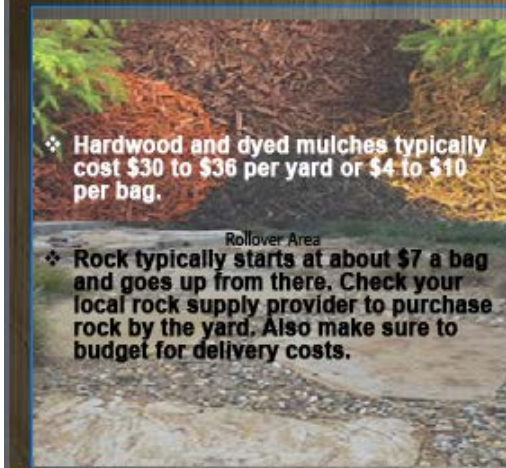
Background: Wood Grain Theme/ Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
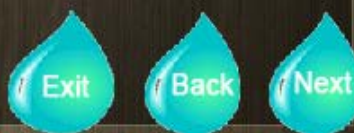Time Duration: 2-4 minutes (estimated)

T9

Irrigation
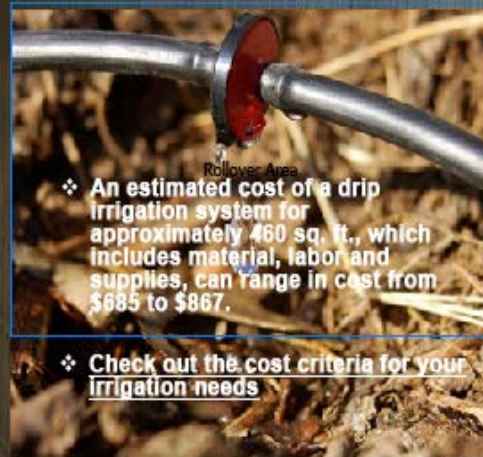
An estimated cost of a drip irrigation system for approximately 460 sq. ft., which includes material, labor and supplies, can range in cost from $685 to $867.

Check out the cost criteria for your irrigation needs

Rollover Area

Roll over the graphic for budget tips

- Installing a drip irrigation system is by far the best way of watering your xeriscape yard, because it gives just the right amount of water at exactly the right times. A successful xeriscape relies on thorough, regular watering during the first two summers to train roots to grow deep into the cool earth.

- A drip system is made up of a series of flexible tubes which run along the surface of the soil. Emitters are placed at periodic intervals which dribble a slow stream of water over an extended period of time, such as an hour.

- It is also a good idea to have some type of rainwater harvesting system that can be hooked up to a drip irrigation system.

Help   Menu   Exit   Back   Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Information Text
Text Font: Add bullet, Arial,16, bold, white (#FFFFFF)
On graphic rollover text caption:
Add bullet, Arial, 16, bold, white (#FFFFFF)
(Website Hyperlink) white (#FFFFFF)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit (out of tutorial)
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-3 minutes (estimated)

T10

Mulch & Hardscape Material

❖ Hardwood and dyed mulches typically cost $30 to $36 per yard or $4 to $10 per bag.

Rollover Area

❖ Rock typically starts at about $7 a bag and goes up from there. Check your local rock supply provider to purchase rock by the yard. Also make sure to budget for delivery costs.

Roll over the graphic for budget tips

❖ Mulch is a layer of nonliving material covering the soil surface around plants. A good mulch conserves water by significantly reducing moisture evaporation from the soil.

❖ Mulch also reduces weed populations, prevents soil compaction and keeps soil temperatures more moderate.

❖ Mulches can be organic materials such as bark, compost and wood chips; or inorganic materials, such as lava rock or limestone.

❖ Also consider hardscaping features, which include areas to be covered with various types of rock and pavers. Additional larger hardscape includes walls, swimming pools, fountains, barbecues, bar areas, fireplaces and fire pits.

❖ View hardscape ideas

Help Menu   Exit Back Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
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All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse, Cyan/Aqua (#00FFFF), Lime (#00FF00)

Information Text
Text Font: Add bullet, Arial,16, bold, white (#FFFFFF)
(Website Hyperlink) (#0080FF)
On graphic rollover text caption:
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Add bullet, Arial, 16, bold, black (#000000)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit (out of tutorial)
Back Button to: Previous Page
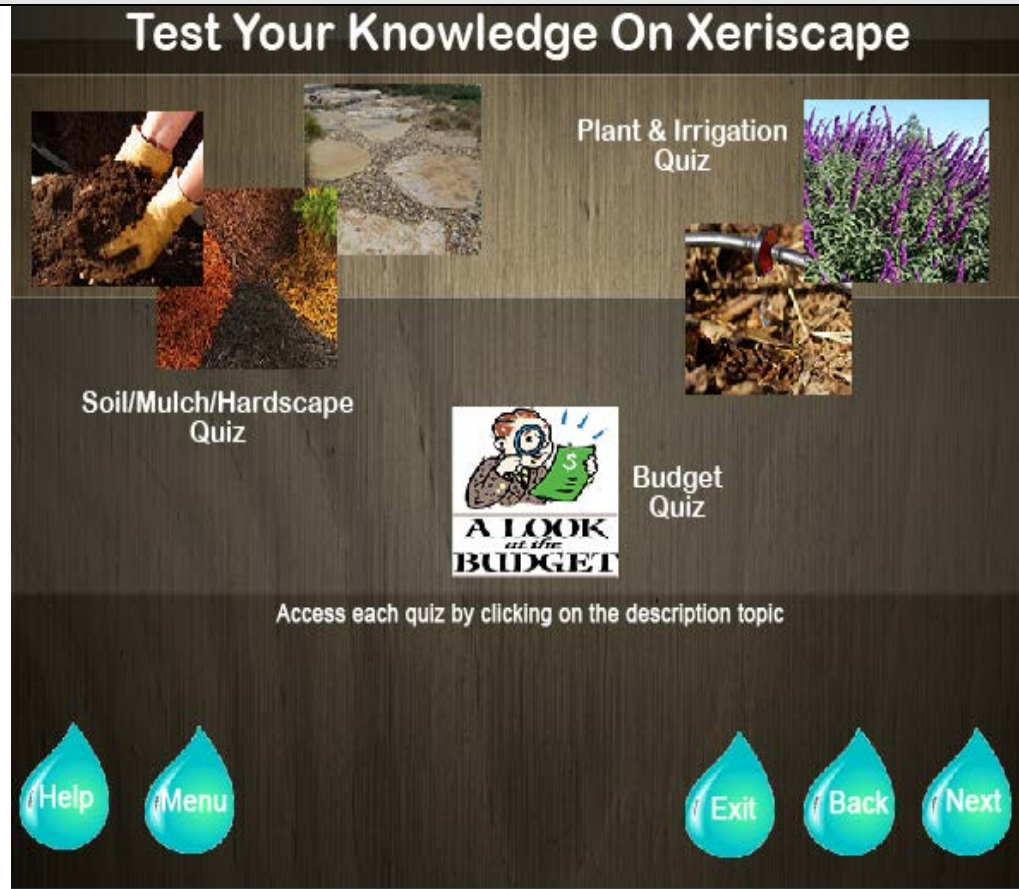Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-3 minutes (estimated)

T11

Maintenance

- Regular maintenance will not only preserve the beauty of your landscape, but will keep it healthy. By following the principles outlined in this tutorial, your landscape will require less watering, mowing, and fertilizer to keep it looking great.

- Xeriscaping Do's:
  Do use your imagination
  Don't think you're stuck with only cacti
  Do use perennial flowers in close groupings
  Do install drip irrigation
  Do consider seasonal interest
  Do group plants by their watering needs
  Do check into water rebate programs

- Xeriscaping Dont's:
  Don't over plant woody shrubs
  Don't be afraid to keep a small patch of lawn
  Don't bother starting with large specimens
  Don't be too quick to cut plants back in winter
  Don't skimp on your soil prep

Rollover Area

- Purchasing your own gardening tools will allow you to keep costs down by doing your own maintenance.

- Hiring a landscaping service can range in cost from $50 to $300 or more a month.

Roll over the graphic for budget tips

Help   Menu   Take Quiz   Exit   Back   Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
Insert graphic(s) placement as shown
All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Take Quiz, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0
Mouse: Place at bottom of graphic as icon for rollover text reminder

Information Text
Text Font: Add bullet, Arial, 16, bold, white (#FFFFFF)
On graphic rollover text caption:
Add bullet, Arial, 16, bold, white (#FFFFFF)
All Timing: Appear after 0 sec
All Display: Rest of slide

Navigation
Help Button to: T3
Menu Button to: T4
Take Quiz Button to: T12
Exit Button to: Exit (out of tutorial)
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/Caption & Content Left

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-3 minutes (estimated)

T12

Test Your Knowledge On Xeriscape

Plant & Irrigation Quiz

Soil/Mulch/Hardscape Quiz

A LOOK at the BUDGET

Budget Quiz

Access each quiz by clicking on the description topic

Help   Menu   Exit   Back   Next

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Graphics/Media
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All Timing: Appear after 0 sec
All Display: Rest of slide
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Help, Menu, Exit, Back, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0

Instructional Text
(Quizzes)
Arial Rounded MT Bold, 20, white (#FFFFFF)
All Timing: Appear after 0 sec
All Display: Rest of slide

Information Text :
Arial, 16, bold, white (#FFFFFF)

Navigation
Soil/Mulch/Hardscape Quiz Budget to: T13
Plant & Irrigation Quiz to: T14
Budget Quiz goes to: T15
Help Button to: T3
Menu Button to: T4
Exit Button to: Exit
Back Button to: Previous Page
Next Button to: Next Page

Sound: Background4.mp3

Background: Wood Grain Theme/ Blank

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 30 seconds (estimated)

| T13 | | **Formatting**
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Information Text
Arial, 24, bold, white (#FFFFFF)
Try Again! Apply Effect: Fly in from left (Failure Caption)

Drag & Drop Options:
Submit: On Success, play audio, Human Applause
On Failure: Continue, Check Infinite Attempts
Failure Caption: (Try Again!)

Graphics/Media
Insert graphic(s) placement as shown
Drag boxes: Green (#008000), gradient fill, opacity %100
Submit button: Image Button - CB_Submit (150*45)
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Quiz Menu, Exit, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0

Navigation
Submit button = results = Try Again (graphics go back to original location) or Applause sound if correct
Next button - Next Page
Quiz Menu to: T12
Exit Button to: Exit

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption |

Notes:
Drag and Drop Game
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-3 minutes (estimated)

T14

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Information Text
Arial, 24, bold, white (#FFFFFF)
Try Again! Apply Effect: Fly in from left (Failure Caption)

Drag & Drop Options:
Submit: On Success, play audio, Human Applause
On Failure: Continue, Check Infinite Attempts
Failure Caption: (Try Again!)

Graphics/Media
Insert graphic(s) placement as shown
Drag boxes: Green (#008000), gradient fill, opacity %100
Submit button: Image Button - CB_Submit (150*45)
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Quiz Menu, Exit, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0

Navigation
Submit button = results = Try Again (graphics go back to original location) or Applause sound if correct
Next button = Next Page
Quiz Menu to: T12
Exit Button to: Exit

Sound: Background4.mp3

Background: Wood Grain Theme/ Caption

Notes:
Drag and Drop Game
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-3 minutes (estimated)

T15

Budget Quiz

Match the following items to their estimated cost.

Soil Analysis   A) $685 for 460 sq. ft.

Irrigation   B) $10 to $125

Mulch   C) $4 to $10 a bag

Plant Material   D) $50 or more

Maintenance   E) $300 or more

Average Total Cost   F) $3,000

Click on Submit when finished
Click on Next to see your results

Clear   Quiz Menu   Exit   Submit   Next

You must answer the question before continuing
Correct - Click anywhere or press "y" to continue!

Review Area
Try Again!

Notes:
Matching Quiz
Sound: Background4.mp3, Check Loop Audio
Time Duration: 1-3 minutes (estimated)

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Instruction Text
(See graphic on left for quiz matching questions and answers)
Quiz Text: Rounded MT Bold, 18, white (#FFFFFF)

Information Text
Arial, 20, bold, brown (#A52A2A)
Review Area, Arial, 20, bold, white (#FFFFFF)

(Click on Submit when finished)
(Click on Next to see your results)
Timing: Appear after 0 sec
Display: Rest of slide
Arial Rounded MT Bold, 24, white (#FFFFFF)

Next, Exit, Quiz Menu, transparent, Arial, 20, bold, white (#FFFFFF) (See graphic on for placement of informational text)

Graphics
Insert graphic(s) placement as shown
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Clear, Quiz Menu, Exit, Submit, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0

Navigation
Submit button: Failure response (Try Again!) Correct Answer (Human Applause sound)
Next button (smart shape button with text caption) = Next Page
Quiz Menu button (smart shape button with text caption) to: T12
Clear button: Clears choices
Exit Button to (smart shape button with text caption): Exit

Sound: Background4.mp3

Background: Wood Grain Theme/ Quiz

T16

Quiz Results

You Scored: {score}

Maximum Score: {max-score}

Accuracy: {percent}

Quiz
Menu

Exit

Review

Next

Review Area

Formatting
Heading Font: Arial Rounded MT Bold, 36, white (#FFFFFF)
Timing: Appear after 0 sec
Display: Rest of slide

Graphics
Text: Rain Drop, (Quiz Menu, Exit, Review, Next)
Arial Rounded MT Bold, 20, white (#FFFFFF). Fill solid, white, opacity %0
Rain Drops, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Quiz Menu, Exit, Review, Next
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0

Information Text
Arial, 20, bold, white (#FFFFFF)
Quiz result options: Score, Max Score, Accuracy
See graphic for placement of informational text

Navigation
Review button to: T15
Next button (smart shape button with text caption): Next Page
Quiz Menu Button (smart shape button with text caption) to: T12
Exit Button to (smart shape button with text caption): Exit

Sound: Background4.mp3

Background: Wood Grain Theme/ Quiz

Notes:
Matching Quiz
Sound: Background4.mp3, Check Loop Audio
Time Duration: 30 seconds (estimated)

T17	

Formatting on the right:

Formatting
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Timing: Appear after 0 sec
Display: Rest of slide

Narration
Audio information to present (TBD)

Information Text
Arial, 20, bold, white (#FFFFFF)

Graphics/Media
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Text: Rain Drop, (Exit)
Rain Drop, Bottom, Cyan/Aqua (#00FFFF)
Arrange: Send to back
Interactions Button Text: Exit
Arial, 20, bold, white (#FFFFFF). Fill solid, white, opacity %0

Navigation
Exit Button to (smart shape button with text caption): Exit
Butterfly uses Emphasis Falling Leaves Effect

Sound: Background4.mp3

Background: Wood Grain Blank Slide

Notes:
Sound: Background4.mp3, Check Loop Audio
Time Duration: 17 seconds (estimated)