

## Interactive Animation Project:

**Title**

Percentage Calculation Skills Tutor

**Purpose**

Enhance the students' skill at applying their analytical comprehension of calculating percentages to help them transfer their theoretical knowledge to real world contexts. Provide an entertaining and motivating learning experience on the topic.

**Primary Target Audience**

The students of Zayed University in the United Arab Emirates. Zayed is an all female, four-year institution of higher education, with a 2 year EFL preparatory program. This project is predominantly aimed at students moving from EFL into the general education program - the "Colloquy" program - where remedial math courses are delivered to students who score poorly on a math placement pretest.

**User Interactions**

Students will manipulate three basic types of "percent illustration" controls as well as basic navigation elements and standard online testing features (such as check-boxes, popup menus and text fields.)

The basic sequence of the project components will be for students to watch a short non interactive animated demonstration of a percentage calculation procedure, and then be taken to an interactive tutorial version of the same process illustrated, where they will resolve a question relating what they have previously viewed using the percent illustration controls. (This interactive tutorial feature may be timed so as to introduce a competitive game factor.)

Activity	Goal	Timing
Animated Demonstration	Students will gain an understanding of a percentage calculation process	1 minute or less
An Interactive Tutorial problem	Students will demonstrate their understanding of the percentage calculation process	Yet to be determined, may be open ended, or under a timer...

**Project Limitations**

This project is to be delivered through the web, and due to bandwidth limitations will need to be compact. Any non-Flash generated graphics need to be kept to a minimum, and suitably compressed.

The students of Zayed University all purchase laptops at the start of their college career, and each cohort may receive a different model. The Flash content will

need to be checked for compatibility with different systems and address the lowest common denominator of laptop capability.

**Resources**

The resource requirements of the project are low, and the only non-Flash resources may be some background images and illustrative content dependant on the specific real world problem being presented.

**Project Schedule**

<b>Activity</b>	<b>7/19</b>	<b>7/21</b>	<b>7/24</b>	<b>7/27</b>	<b>7/30</b>
Interface Graphic Design	X				
Create Animated Demonstration	X	X			
Create Interactive Tutorial		X	X		
Testing		X	X	X	
Implement Peer Evaluation				X	
Submit Project					X

700 x 500

No: \_\_\_1\_\_\_\_\_

# Welcome to the Percentage Calculation Skills Tutor

Here you will learn how to calculate  
Percentages, and apply your skills in  
the everyday world.

**Click to Begin**

Introductory screen with instructions, credits, general info.


Interaction	Effect	Transition effect
Begin button	Go to animated demonstration	Fade to next screen
Sound	Triggered by button click	

Media	File name	Description
Sound	Button_sound.mp3	Responds to click, suitable bell, or other sound for interest
Music		
Text	Internal	Text fields with introductory information

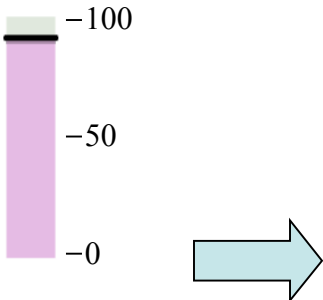
700 x 500

No: 2.0

Demonstration 1



You have 7 Children, and 3 are boys.  
What is the percentage of all children that are boys?

$$\frac{3}{7} = \frac{?}{100}$$


The animated demonstration. Parts are progressively revealed and animated around the screen using motion, and timeline effects. See next screen (2.1)

Interaction	Effect	Transition effect
Next button	Moves to 2.1 screen	Animated revealing and rearrangement of elements

Media	File name	Description
2D		Images of children, or suitable objects
Animation		Equation parts are revealed and slide around to create equation solution. Bar graph slides to reveal percent.
Text		Problem statement; titles; equation
Sound		Sounds highlight animated elements ( sliding, swooshing, bell sounds...)

700 x 500

No: \_\_ 2.1 \_\_

Demonstration 1

You have 7 Children, and 3 are boys.  
What is the percentage of all children that are boys?

$$\frac{3 \times 100}{7} = ?$$

Continuation of screen 2.0 Animated bar or pie chart makes graphic association to numerical representation of the calculations.

Interaction	Effect	Transition effect
Next button	Moves to 3.0 screen interactive tutorial	Animated fade

Media	File name	Description
2D		See screen 2.0
Animation		Equation parts are revealed and slide around to create equation solution. Bar graph slides to reveal percent.
Sound		Sounds highlight animated elements ( sliding, swooshing, bell sounds...)
Text		Problem statement; titles; equation

700 x 500

No: \_\_ 3.0 \_\_

**Tutorial 1** **Time Remaining: 10 seconds**

You have 7 Children, and 5 are boys.  
What is the percentage of all children that are boys?

$$\frac{5 \times 100}{7} = 42 \checkmark$$

*Drag the Bar Graph line to find the answer, you have 30 seconds*

Timed user interaction. Student drags the pie or bar chart interactively and views the number change. When they believe they have the correct answer, they click the green check box. Student works against the clock. If time runs out, the answer is automatically checked.

Interaction	Effect	Transition effect
Draggable bar or pie chart elements	Displays number interactively and highlights number of objects ( children in this sample )	
Animated Clock	Displays number of seconds left to solve problem. When time is up, answer is checked & go to screen 3,1	
Check button	Checks answer before time is up, then go to screen 3,1	

Media	File name	Description
2D		See screen 2.0
Text		See screen 2.0
Sound		Sounds highlight animated and interactive elements ( sliding, swooshing, bell sounds... )

700 x 500

No: \_\_3.1\_\_

**Tutorial 1** **Time Remaining: 0 seconds**

What is  $5 \times 100 \div 7 = 42$  ys?

**Your answer is incorrect.**

Would you like to:

1. Try another?
2. Quit?
3. Watch the Demonstration again?

Drag the Bar Graph line to find the answer, you have 30 seconds

Student chooses next action, whether or not the answer is correct or incorrect.

Interaction	Effect	Transition effect
Menu selections	User chooses routing of interaction sequence.	Fade to choice

Media	File name	Description
2D		See screen 2.0
Sound		Menu selection sounds ( bells or swooshes )
Text		See screen 2.0