

Math-in-CTE Lesson Plan

<i>Lesson Title:</i>	Photoshop Scale	<i>Lesson 01</i>
<i>Occupational Area:</i>	Information Technology	
<i>CTE Concept(s):</i>	Photo editing: Resizing an image	
<i>Math Concepts:</i>	Ratio, Proportion, Scale, Equivalent Fractions	
<i>Lesson Objective:</i>	After completing this lesson, the student should be able to resize a image into the given parameters without distorting the image	
<i>Supplies Needed:</i>	White boards, markers, computers, Photoshop, digital images, Flashcards, handouts	
THE "7 ELEMENTS"		TEACHER NOTES (and answer key)
<p>1. Introduce the CTE lesson.</p> <p>Show an image that has been distorted different ways and question what is wrong. Show how images are different sizes even though they look the same.</p>		<p><i>Discuss:</i></p> <ul style="list-style-type: none"> • Photoshop has already been introduced. • How images need to be resized proportionally. • Use of Photoshop to check image size. <p><i>Needed: Intro PowerPoint.</i></p>
<p>2. Assess students' math awareness as it relates to the CTE lesson.</p> <p>The basis of this exercise is to find out if students can find the proportion/ Ratio/ Equivalent Fractions</p> <p>Students work through example problems individually on white boards and using flashcards to show answer.</p>		<p><i>Needed: White boards, markers, Flashcards, Ratios/Proportions PowerPoint and find ratios</i></p> <p>A ratio is a comparison of two numbers by division. A proportion is a statement that two ratios are equal. Equivalent Fractions are two fractions that represent the same number (they are equal)</p> <p>All answers on PowerPoint.</p>
<p>3. Work through the math example embedded in the CTE lesson.</p> <p>Your camera images are 16x24, and you need to resize this image to fit into a 4x6 frame. If I have a square piece of paper, how would I make my rectangular image fit without distortion?</p>		<p><i>Needed: Math problem PowerPoint, white boards, markers</i></p> <p>All answers on PowerPoint.</p>

<p>4. Work through <i>related, contextual math-in-CTE</i> examples.</p> <p>Students work through story problems on PowerPoint on their own.</p>	<p>Continue with <i>Extra practice powerpoint</i>. Story problems, images All answers on PowerPoint.</p>
<p>5. Work through <i>traditional math</i> examples.</p> <p>Solving proportions</p>	<p><i>Math Practice Solving Proportions Worksheet</i> <i>Answer Key</i></p>
<p>6. Students demonstrate their understanding.</p> <p>Students will proportionally resize several images and then demonstrate in Photoshop and show their results. Write a reflection about why this worked for some images and not for others.</p>	<p>Homework worksheet: <i>Resize the images proportionally</i> Students should resize images and demonstrate their proofs in Photoshop</p>
<p>7. Formal assessment.</p> <p>Create a state postcard by selecting and resizing a minimum of 4 images to promote your state.</p>	<p><i>State Postcard Assessment Project</i></p>

NOTES: