

Claire Wurzer

<p><b>Grade:</b> 4</p>	<p><b>Subject:</b> Math (Art integration)</p>
<p><b>Materials:</b> Computers, headphones, worksheets, pencils</p>	<p><b>Technology Needed:</b> Computers</p>
<p><b>Instructional Strategies:</b></p> <ul style="list-style-type: none"> <li>ø Direct instruction</li> <li>ø Guided practice</li> <li>ø Socratic Seminar</li> <li>ø Learning Centers</li> <li>ø Lecture</li> <li>ø Technology integration</li> <li>ø Other (list)</li> </ul> <ul style="list-style-type: none"> <li>ø Peer teaching/collaboration/cooperative learning</li> <li>ø Visuals/Graphic organizers</li> <li>ø PBL</li> <li>ø Discussion/Debate</li> <li>ø Modeling</li> </ul>	<p><b>Guided Practices and Concrete Application:</b></p> <ul style="list-style-type: none"> <li>ø Large group activity</li> <li>ø Independent activity</li> <li>ø Pairing/collaboration</li> <li>ø Simulations/Scenarios</li> <li>ø Other (list)</li> </ul> <p>Explain:</p> <ul style="list-style-type: none"> <li>ø Hands-on</li> <li>ø Technology integration</li> <li>ø Imitation/Repeat/Mimic</li> </ul>
<p><b>Standard(s)</b></p> <p>4.NBT.2-Read and write multi-digit whole numbers to the one millions place using base-ten numerals, word form, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using &gt;, =, and &lt; symbols to record the results of comparisons.</p> <p>4.1.2 Know the different techniques* used to create* visual art.</p>	<p><b>Differentiation</b></p> <p><b>Below Proficiency:</b> Students can go at their own pace and watch the introductory videos until the concept is clear to them.</p> <p><b>Above Proficiency:</b> Students can move on to the ‘Coloring section’ if they finish the ‘Drawing Basics’ section.</p> <p><b>Approaching/Emerging Proficiency:</b> Students can work through the ‘Drawing Basics’ section at their own pace, hopefully getting close to finishing the material.</p>
<p><b>Objective(s)</b></p> <p>-Students will be able to discover whether the number should be made larger or smaller to get the shape where they want it to go using code on the Khan Academy website.</p> <p>-Students will be able to identify and record comparisons of two multi-digit numbers that they have used and then adjusted when coding.</p> <p>-Students will be able to identify how they have seen coding used in art in their day to day lives by recording this information on a slip to be handed in at the end of the lesson.</p> <p><b>Bloom’s Taxonomy Cognitive Level:</b> IV Analyzing</p>	<p><b>Modalities/Learning Preferences:</b></p> <p>Visual- videos, activities</p> <p>Auditory- Instructions, videos</p> <p>Kinesthetic- activities</p>

<p><b>Classroom Management- (grouping(s), movement/transitions, etc.)</b></p> <ul style="list-style-type: none"> <li>- Call students to carpet by groups that are the most ready.</li> <li>- When I say a color that you are wearing, using a red or yellow voice level, grab your computer and headphones, find a seat and log in. After that quietly wait for instructions.</li> <li>- Give students a two minute warning that they should wrap up what they are working on.</li> <li>- Once they are finished, they can turn in their sheets and transition the next activity.</li> </ul>	<p><b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b></p> <ul style="list-style-type: none"> <li>- Red or yellow (whispering or silent) voices during transitions.</li> <li>- Red voice level during instruction and individual work time.</li> <li>- Using computers appropriately and only going on the Khan Academy Coding website.</li> </ul>
Minutes	Procedures
5	<p><b>Set-up/Prep:</b></p> <ul style="list-style-type: none"> <li>-Get computer cart and make sure that the computers are charged.</li> </ul>
3	<p><b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b></p> <ul style="list-style-type: none"> <li>- Call students to carpet by groups that are the most ready.</li> <li>- “Where have you seen art in your everyday life?” (call on three)</li> <li>- “Many people do not realize but things like advertisements, websites, and video games are all art. These things are often made using computer coding. Computer coding is a language that is used in computers to make the images appear. Today we are going to learn the basics of computer coding.”</li> </ul>
13	<p><b>Explain: (concepts, procedures, vocabulary, etc.)</b></p> <ul style="list-style-type: none"> <li>- “This is a form of art that involves math and technology to help create it. The biggest math element we find in coding is the concept of greater than, less than, and equal to.”</li> <li>- Review of greater than or less than: -Greater than: <math>4 &gt; 2</math>, the symbol eats the bigger number -Less than: <math>1 &lt; 3</math>, the symbol doesn't want to eat the smaller number</li> <li>- Today we are going to learn to code using our computers and we will need to use this concept while we do so.</li> <li>- When I say a color that you are wearing, using a red or yellow voice level, grab your computer and headphones, find a seat and log in. After that quietly wait for instructions.</li> <li>- Open Google Chrome and go to <a href="https://www.khanacademy.org/computing/computer-programming">https://www.khanacademy.org/computing/computer-programming</a>.</li> <li>- As a class we will go through the ‘Intro to Programming’ section.</li> <li>- Then watch the ‘Making Drawings With Code’ video together.</li> <li>- Discuss how in creating the drawings students must figure out if the numbers need to be greater than or less than to adjust the images.</li> </ul> <p>ite one adjustment that you made per shape expressed by a greater than or less than statement (Ex. <math>100 &lt; 150</math>).</p>

<p>20</p>	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b></p> <p>-Have students go through the rest of the module at their own pace, filling out the worksheet below as they go.</p> <div data-bbox="414 321 773 762" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Name: _____</p> <p>Simple Snowman: _____</p> <p>_____</p> <p>_____</p> <p>Waving Snowman: _____</p> <p>_____</p> <p>Where do you see coding in your everyday life?</p> <p>_____</p> <p>_____</p> <p>_____</p> </div> <p>-Have students who finish early and get the material go on to the 'Coloring' section.</p> <p>-Give students a two minute warning that they should wrap up what they are working on.</p>
<p>4</p>	<p><b>Review (wrap up and transition to next activity):</b></p> <p>- Have students look at the question on the bottom half of their sheet. Have the students give at least one example, using full sentences of where they see coding in their everyday lives.</p> <p>-Once they are finished, they can turn in their sheets and transition the next activity.</p>
<p><b>Formative Assessment: (linked to objectives)</b></p> <p><b>Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</b></p> <p>-The worksheet shows the students understanding of greater than and less than statements and of how coding is an art that they can see in daily life.</p> <p><b>Consideration for Back-up Plan:</b> Have students do assignment and/or discuss with teacher at another time.</p>	<p><b>Summative Assessment (linked back to objectives)</b></p> <p><b>End of lesson:</b></p> <p>There will be an end of the unit assessment for this material, later on in the unit.</p> <p><b>If applicable- overall unit, chapter, concept, etc.:</b></p> <p>Number and Operations in Base Ten</p>

**Reflection (What went well? What did the students learn? How do you know? What changes would you make?):**