

## VITAL INFORMATION

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<b>Subject(s):</b>	Careers, Computer Fundamentals 1-2
<b>Topic or Unit of Study:</b>	Software Development
<b>Grade/Level:</b>	9-12
<b>Objective:</b>	<p>At the conclusion of this lesson students will be able to:</p> <ol style="list-style-type: none"><li>1. Start Visual Basic 2008 Express Edition and create a new project for a Windows Forms Application.</li><li>2. Use the form editor to add controls to the form.</li><li>3. Use the code editor to add instructions for the button click event.</li><li>4. Compile and execute the program.</li><li>5. Modify the code and form to support an additional button.</li><li>6. Set a breakpoint in the code and run the program in debug mode, demonstrating which code is executed.</li></ol>
<b>Summary:</b>	Students create what is presumably their first Visual Basic program with support from an online tutorial (see instructional materials below). They confirm their understanding by improving upon the program.

## IMPLEMENTATION

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<b>Learning Context:</b>	Students are beginning the transition from a special purpose, graphical language (Scratch) to a general purpose, largely text-based language (Visual Basic). This exercise is a "Hello, world!" program updated for the 21st century. There are numerous similarities between the two environments. For example, sprites are similar to controls, the stage to forms, message reception to event handling, etc. They have adequate scaffolding.
<b>Procedure:</b>	<ol style="list-style-type: none"><li>1. Instruct students on how to start Visual Basic. There should be an icon under all programs. When the Start Page appears, have students click on "Create Your First Application" in the "Getting Started" panel. Allow them a choice between the text and video versions of the tutorial. (Due to bandwidth constraints, the video version may have to be downloaded and installed locally.)</li><li>2. Explain that there is the additional requirement at the end to add a "Favorite" button which directs the browser to their favorite web site. The argument to the Navigate method should be the URL placed in quotes, which is a string literal in VB. Also remind them to save their</li></ol>

work to the H: drive rather than anywhere else.

3. When students have completed the tutorial and added their button and code, have them demonstrate. Instruct them to set a breakpoint in their program by clicking on the left margin where the event handler is specified. Have them edit the URL they chose and then single step the program through the next line of code. Suggest that they investigate the Debug menu where they can also manipulate breakpoints and debug windows. Check that work is saved to H:.

**Differentiated Instruction:**

The tutorial is available in both text and video formats. Students can have their choice.

**Sample Student Products:**

The variation in products should be minimal: only the URLs and graphical alignment should differ between students. Otherwise the result should match code shown in the tutorial.

**Collaboration:**

Students will work individually.

**Time Allotment:**

1 class period. 55 Min. per class.

**Author's Comments & Reflections:**

Although the lesson is very straightforward, it is also a test of the computer system with which students are working. One can anticipate numerous glitches which will have to be addressed as students are otherwise working independently.

Re. time allotment: The video itself has a duration of 36:26 minutes. Finishing in 55 minutes may be a challenge for students.

## MATERIALS AND RESOURCES

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**Instructional Materials:**

Links

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| 1. <a href="#">Creating Your First Visual Basic Program</a> |
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**Resources:**

- Technology resources:  
Visual Basic 2008 Express Edition, Windows Media Player

## STANDARDS & ASSESSMENT

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**Standards:**

 **AZ- Career and Technical Education Programs**

- **Level** : Career Preparation (Grades 10 - 12)
- **Program** : Information Technology CIP No. 15.1200
- **Option** : Software Development - Option C
  - **Competency** : \*3.0 DEVELOP APPROPRIATE WORK HABITS FOR SUCCESSFUL EMPLOYMENT IN INFORMATION TECHNOLOGY
    - **Indicator** : 3.3 Complete tasks accurately
    - **Indicator** : 3.4 Complete tasks with minimal supervision
  - **Competency** : 16.0 PARTICIPATE IN INFORMATION TECHNOLOGY WORK-BASED LEARNING EXPERIENCES
    - **Indicator** : 16.1 Use technology appropriate for a job in information technology

- **Competency** : 28.C USE SOFTWARE TO CREATE PROGRAMS
  - **Indicator** : 28.1c Enter and modify code using a program editor
  - **Indicator** : 28.2c Compile and execute programs
  - **Indicator** : 28.3c Correct syntax errors
  - **Indicator** : 28.7c Access program and language documentation
- **Competency** : 31.C EMPLOY MODULARITY IN WRITING PROGRAMS
  - **Indicator** : 31.2c Utilize parameters to pass data into program modules
- **Competency** : 34.C USE SIMPLE DATA TYPES AND STRINGS
  - **Indicator** : 34.2c Choose the appropriate data type for a given situation

**Assessment/Rubrics:**

**Rubrics**

1. <u>Hello, world!</u>
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