

## REVIEW LESSON

MTA Course: Windows Development Fundamentals

Lesson name: Windows Development Fundamentals 2.2

Topic: Understand Windows Forms inheritance (One 50-minute class period)

File name: WinDevFund\_RL\_2.2

### **Lesson Objective:**

**2.2:** Understand Windows Forms inheritance. *This objective may include but is not limited to:* implementing forms inheritance in applications for visual inheritance.

### **Preparation Details**

#### **Prerequisite student experiences and knowledge**

This MTA Certification Exam Review lesson is written for students who have learned about Windows® application programming. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the Microsoft® resources and Web links at the end of this review lesson.

#### **Instructor preparation activities**

- Make copies of Student Activity Worksheet 2.2.

#### **Resources, software, and additional files needed for this lesson:**

- WinDevFund\_PPT\_2.2
- WinDevFund\_SA\_2.2
- WinDevFund\_SA\_2.2\_Key
- Microsoft Visual Studio® 2008, or
  - Microsoft Visual Basic® 2008, Express Edition  
(<http://www.microsoft.com/express/downloads/#2008-Visual-Basic>)
  - Microsoft Visual C#® 2008, Express Edition  
(<http://www.microsoft.com/express/downloads/#2008-Visual-CS>)

## **Teaching Guide**

### **Essential vocabulary:**

**base form**—a form used to define one or more additional forms; also referred to as a *parent* form.

**inherited form**—a form which is based on (or “inherits” from) another form; also referred to as a *child* form or a *derived* form.

**forms inheritance**—a feature that allows forms to share common elements and functionality; also referred to as *visual inheritance*.

## **Lesson sequence**

### **Activating prior knowledge/lesson staging (Anticipatory Set—5 minutes)**

1. Discussion prompts (available in Microsoft PowerPoint® file): “List qualities that you have inherited from your parents. Which of your features are similar to your parents? Which of your features are different?”
  - See the teacher notes for suggestions if your students have experience with object-oriented programming (OOP).
2. After giving them a few minutes to think about and write their answers, talk about how we perceive inheritance: We “inherit” features from our parents, but we also have our own features and capabilities.
3. Point out that forms inheritance is based on this same idea. Be sure to mention that part of the usefulness of OOP is that it allows programmers to reuse code (and maintain it more easily).

### **Lesson activity (15 minutes)**

#### **1. Teacher Instruction (15 minutes)**

- Using the PowerPoint presentation, review forms inheritance.
- When discussing the creation of forms inheritance, demonstrate creating inherited forms with both the Designer and programmatically in code.

### **Assessment/lesson reflection (25 minutes)**

1. Direct the students to complete Part I and Part II of the Student Activity. Part II should be completed in Visual Studio.

**Microsoft resources and Web links**

**MSDN Library: Windows Forms Inheritance**

([http://msdn.microsoft.com/en-us/library/aa983613\(VS.71\).aspx](http://msdn.microsoft.com/en-us/library/aa983613(VS.71).aspx))

**Walkthrough: Demonstrating Visual Inheritance**

([http://msdn.microsoft.com/en-us/library/aa984465\(VS.71\).aspx](http://msdn.microsoft.com/en-us/library/aa984465(VS.71).aspx))

**Additional notes to the teacher:**

- If your students have a background in OOP, you may want to use that in your Anticipatory Set. Ask students to summarize what they know about object inheritance, including why programmers find inheritance useful.