

REVIEW LESSON

MTA Course: 10754 Microsoft .NET Fundamentals

Lesson name: Microsoft .NET Fundamentals 2.2

Topic: Understand object-oriented concepts in the .NET Framework (One 50-minute class period)

File name: 10754_Msft.NET_RL_2.2

Lesson Objective

2.2: Understand object-oriented concepts in the .NET Framework. *This objective may include but is not limited to:* understanding how inheritance works in .NET, polymorphism, and interfaces

Preparation Details

Prerequisite student experiences and knowledge:

This MTA Certification Exam Review lesson is written for students who have learned about application programming with the Microsoft® .NET Framework. 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 “Resources” section at the end of this review lesson.

This lesson is not a comprehensive look at object-oriented programming (OOP); rather, it is a review of OOP in the .NET Framework that focuses on polymorphism and interfaces. The links provided at the end of this lesson include information about the fundamental concepts of OOP.

Instructor preparation activities:

- Make copies of 10754_Msft.NET_SA_2.2 available to students.

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

- 10754_Msft.NET_PPT_2.2
- 10754_Msft.NET_SA_2.2
- 10754_Msft.NET_SA_2.2_key

Teaching Guide

Essential Vocabulary

base class—a class from which other classes have been or can be derived by inheritance.

derived class—a class created from another class; a derived class inherits all the members of its base class.

inheritance—a technique that enables developers to create a new class that reuses, extends, and modifies the behavior that is defined in another class.

interface—a structure that defines a set of properties, methods, and events but does not provide any implementation.

polymorphism—a language feature that allows a derived class to be used interchangeably with its base class.

Lesson Sequence

Activating prior knowledge/lesson staging (10 minutes):

1. As indicated in the Microsoft PowerPoint® presentation, direct students to
 - Describe a video game.
 - List the objects in the game.
 - List actions for each object.
2. If time allows, choose a few students to share their responses.
3. Point out that the list that they've created could be used as a starting point for creating the game. The objects in the game would become classes; the actions of each object would become methods.

Lesson activity (25 minutes):

1. Use the presentation to review OOP.

Assessment/lesson reflection (15 minutes):

1. Direct students to complete the Student Activity document 10754_Msft.NET_SA_2.2.

Resources:

- **MSDN® Beginning Developer Learning Center—Lesson 6 (Visual Basic®)**
<http://msdn.microsoft.com/en-us/beginner/bb308752.aspx>
- **MSDN Beginning Developer Learning Center—Lesson 6 (Visual C#®)**
<http://msdn.microsoft.com/en-us/beginner/bb308750.aspx>
- **MSDN: Object-Oriented Programming (C# and Visual Basic)**
<http://msdn.microsoft.com/en-us/library/dd460654.aspx>