REVIEW LESSON

MTA Course: 10754 Microsoft .NET Fundamentals
Lesson name: Microsoft .NET Fundamentals 2.4
Topic: Understand and create class libraries (One 50-minute class period)
File name: 10754_Msft.NET_RL_2.4

Lesson Objective

2.4: Understand and create class libraries. *This objective may include but is not limited to:* understanding the logical grouping of classes and the logic behind class libraries (what they are, why they are important).

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.

Instructor preparation activities:

- Make copies available of the Student Activity document 10754_Msft.NET_SA_2.4.

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

- 10754_Msft.NET_PPT_2.4
- 10754_Msft.NET_SA_2.4
- 10754_Msft.NET_CS_2.4 (a C# project)
- Microsoft Visual Studio® 2010; students may also use Microsoft Visual C#® 2010 Express or Microsoft Visual Basic® 2010 Express, available at no cost at *http://www.microsoft.com/express/Windows/*.

Teaching Guide

Essential Vocabulary

class library—a collection of classes that can be packaged as a dynamic-link library (DLL) for distribution, reuse, or both.

dynamic-link library (DLL)—a package of classes and associated code that is linked to your application at run time; Visual Studio creates a DLL file when a class library project is built.

Lesson Sequence

Activating prior knowledge/lesson staging (5minutes):

1. Discuss code reusability issues as indicated on the "Anticipatory Set" slide in the presentation.

Lesson activity (20 minutes):

1. Use the Microsoft PowerPoint® presentation to review class library projects and using DLLs in the .NET Framework.

Assessment/lesson reflection (25minutes):

1. Direct students to complete the Student Activity document 10754_Msft.NET_SA_2.4.

Resources:

- **MSDN®: How to: Create and Use C# DLLs (C# Programming Guide)**
  http://msdn.microsoft.com/en-us/library/3707x96z(VS.80).aspx
- **MSDN: C# DLLs (C# Programming Guide)**
  http://msdn.microsoft.com/en-us/library/ms228390(v=VS.90).aspx

Suggested Best Practices:

- As time allows (or with advanced students), extend the Student Activity by instructing the students to use the `SimpleMathLibrary` to create a basic calculator. Instruct them to create two `TextBoxes` for the user to enter numbers and four `Buttons` (add, subtract, divide, and multiply). The event handlers should use the `Arithmetic` methods to calculate an answer and display it on a `Label`.