

Intel® Teach Program

Essentials Online Course

Module 1

May 2008

Module 1: Teaching with Projects

Overview

Facilitator Corner

Welcome to Module 1: Teaching with Projects! Projects provide an authentic and real-world context for connecting learning activities, incorporating higher-order thinking around big ideas, and engaging students in the learning process. In this module, you explore how technology-supported projects can be used in the classroom, determine the type of planning required, and begin planning your own unit. All of the activities in this module build a foundation for the Intel® Teach Essentials Online Course and are completed during the face-to-face portion of the course.

Take a moment to review the **Module Objectives** and **Module Questions**.

Module Objectives

Participants will:

- Discuss the Intel Teach Essentials Online Course goals and expectations
- Create Portfolio folders for saving unit materials
- View the Unit Plan Template, Portfolio Rubric, and sample Unit Portfolios
- Review research on unit planning and a project-approach to learning
- Create publications to explain projects to others
- Reflect on their learning
- Begin planning technology-enhanced units that target higher-order thinking and 21st century skills (optional)

Module Questions

- How can projects help my students meet standards and develop 21st century skills?
- How can I use projects to enhance student learning?

When you are finished reviewing, proceed to **Get Started**.

Module 1: Teaching with Projects

Activity 1: Getting Started

Facilitator Corner

In this activity, you complete four steps that are important to the rest of the course experience:

- In Step 1, you meet the other course participants.
- In Step 2, you learn about the course goals, look over the focus and outcomes for each module, and set learning goals.
- In Step 3, you think about your curriculum, learn about the Intel® Education *Help Guide*, and create your Portfolio folder.
- In Step 4, you review the Unit Plan Template you will use to create your Unit Plan.

In this module you work both independently in the online environment and with your colleagues in face-to-face groups. If you have questions or encounter difficulties while working independently online, practice using the course communication tools to ask for assistance:

- Send a message to a colleague or your facilitator
- Set up a chat and invite participants to join
- Go to your facilitator's Office Hours in the chat area

Facilitation Tip

Encourage participants to collaborate on a unit and on activities throughout the online course. Participants who feel they learn better with face-to-face contact may also want to complete some of the online activities with a partner or small group in a face-to-face environment.

When you are ready, proceed to **Step 1**.

Module 1: Teaching with Projects

Activity 1: Getting Started

Step 1: Getting Acquainted

Facilitator Corner

Implementing the 'student-centered' learning strategies presented in this course can be a challenge. The colleagues you meet here will be a valuable resource for you as you complete the course work as well as later, when you apply what you have learned in your classroom. Developing relationships with teachers who can support you is a key outcome of this course. During this time, meet the other course participants by reviewing their course profiles.

1. Go to the **Home** tab and find the **Class List** on the left side of the window.
2. Click the names of four or five colleagues to access their profiles.
3. Review the profiles and, if desired, send messages to your colleagues by clicking the **Send Message** button at the bottom of the page or clicking the envelopes next to the names in the class list.
4. Find the messages sent to you by your colleagues on the **Home** tab under **Messages**.
5. Read your messages and respond to any of interest.

Note: Once you read a message, it disappears from the **Messages** section. You can review the **Message History** by clicking the envelope next to the name of a person in the class list who sent you a message.

Facilitation Tip

Show participants how to adjust their message settings so messages not read within three days are sent to the participant's outside e-mail account. Also show how to find the message history and view profile information.

Participants who did not create a profile in the Orientation will need to complete their profiles on their own time.

When you are ready, proceed to **Step 2**.

Module 1: Teaching with Projects

Activity 1: Getting Started

Step 2: Introducing the Intel® Teach Essentials Online Course

Facilitator Corner

The Intel® Teach Essentials Online Course helps you use the power of computer technology to spark student imagination and ultimately move students toward greater learning.

Throughout the course, you encounter questions asking how your students can best use computers to enhance learning. The 'Essential Question' for the entire course is:

**How can technology be used most effectively
to support and assess student learning?**

You will have many opportunities in the course to investigate this question as it applies to your students and your classroom.

We are well aware that life's most important lessons can be taught without a computer. Therefore, we solidly ground this course with research-based curricular planning and assessment practices as you design classroom units and projects.

Our Goal for You

As you progress through the modules of this course, you collaborate with other teachers and discuss ideas for both introducing and using technology in your classroom. You develop a Unit Portfolio based either on material you currently teach or material you would like to teach in the future.

Throughout this course, you will use many different technological resources and tools that can help you create your Unit Portfolio, improve your instruction, and enhance your students' learning:

- A wiki for collaboration on Pedagogical Practice discussions
- A blog for reflective thinking—sometimes personally and sometimes as a group reflection
- An online collaborative Web site for sharing ideas
- A tagging/bookmarking resource for noting and commenting on useful Web sites
- An online Notebook for keeping notes and planning ideas for your unit
- The Teachers' Lounge for discussions you and your colleagues want to pursue related to the course that are not already covered in other discussions
- The Sharing tab for giving and receiving feedback on your Unit Portfolio

Our goal is for you to have a Unit Portfolio you can implement in your classroom—a unit that allows you to raise the level of excellence in your classroom and meet important learning objectives and '21st century skills'.

Read the list of **21st century skills** from the Partnership for 21st Century Skills (DOC; 2 pages) in the **Resources** tab > **Thinking** link.

Facilitation Tip
<p>Lead a short discussion about the tools and resources participants use during the course and where they find them in the course navigation.</p> <p>Before you move on, confirm that all participants are comfortable with the course navigation and features.</p>

Course Overview

Examine the following table to see the major focus and outcomes for each module during the course.

Orientation Module	
Topics:	Key Activities:
Course design and structure	<ul style="list-style-type: none"> • Explore the course schedule and course features • Check available software applications • Complete an online profile and learn about the course community • Review a sample unit plan and develop topic ideas for your own unit plan • Participate in a discussion using the course blog • Complete the Orientation Survey
Module 1: Teaching with Projects	
Topics:	Key Activities:
Project-based learning and unit design	<ul style="list-style-type: none"> • Review portfolio components • Create a publication on projects • Identify 21st century skills for your unit • Develop initial unit ideas • Reflect on learning in your blog
Module 2: Planning My Unit	
Topics:	Key Activities:
Curriculum-Framing Questions and student-centered assessment	<ul style="list-style-type: none"> • Identify standards for your unit • Create learning objectives • Create Curriculum-Framing Questions • Research effective assessment strategies • Draft an Assessment Timeline • Create an assessment to gauge student needs • Create a Unit Portfolio Presentation • Reflect on learning in your blog
Module 3: Making Connections	
Topics:	Key Activities:

<p>The Internet to support teaching and learning</p>	<ul style="list-style-type: none"> • Obtain feedback to improve Unit Portfolio and gauging student needs assessment • Share ideas for meeting standards with projects • Review copyright laws and Fair Use • Create a Works Cited document • Integrate the use of Internet resources to support research, communication, collaboration, problem solving, and other 21st century skills • Use an online collaborative Web site to share ideas • Reflect on learning in your blog
<p>Module 4: Creating Samples of Learning</p>	
<p>Topics:</p> <p>Project outcomes from a student perspective</p>	<p>Key Activities:</p> <ul style="list-style-type: none"> • Identify strategies to ensure safe and responsible Internet use • Create a sample student publication, presentation, wiki, or blog to demonstrate student learning • Draft your Instructional Procedures • Self-assess your student sample • Reflect on learning in your blog
<p>Module 5: Assessing Student Projects</p>	
<p>Topics:</p> <p>Formative and summative assessment</p>	<p>Key Activities:</p> <ul style="list-style-type: none"> • Obtain feedback to improve your student sample • Explore challenges and solutions for involving students in the assessment process • Self-assess your current assessment practices • Draft an Assessment Summary • Create an assessment for your student sample • Revise your student sample based on the assessment • Revise your Unit Plan • Reflect on learning in your blog
<p>Module 6: Planning for Student Success</p>	
<p>Topics:</p> <p>Student support and self-direction</p>	<p>Key Activities:</p> <ul style="list-style-type: none"> • Explore strategies to differentiate instruction • Create an assessment to encourage student self-direction • Create student support materials • Revise your Unit Plan to incorporate accommodations for all learners • Reflect on learning in your blog • Self-assess your facilitation of a student-centered classroom
<p>Module 7: Facilitating with Technology</p>	
<p>Topics:</p> <p>Teacher as facilitator</p>	<p>Key Activities:</p> <ul style="list-style-type: none"> • Explore questioning strategies to promote higher-order thinking • Create facilitation materials • Revise your Unit Plan • Discuss implementation strategies • Create management documents • Self-assess your Unit Portfolio and revise based on

	your assessment • Reflect on learning in your blog
Module 8: Showcasing Unit Portfolios	
Topics: Sharing learning	Key Activities: • Prepare for showcasing your unit • Give and receive feedback on Unit Portfolios • Reflect on learning in your blog • Evaluate the Essentials Online Course

Setting My Goals for the Course

1. Think about what you will be learning and doing in this course:
 - Which topics interest you the most?
 - Which topics will be the most challenging for you?
2. Participate in a face-to-face discussion with the whole group.

Facilitation Tip

Lead a short discussion to ensure there are no misconceptions about the course goals or the module topics. Ask participants to share their areas of interest and potential challenges with any of the topics at this point. Then, help participants set their goals for the course by providing some examples of goals: *I want to improve my assessment methods for student projects. I want to help students develop self assessment and self direction that they will use and build upon all year. I want to design well-organized projects that engage my students deeply and address required standards.*

3. After the discussion, think about the areas in which you would like to focus your learning and write your initial goals for the course in your **Notebook**. You will revisit these goals later in the module.

Classroom Tip: Ask students to set goals at the beginning of projects to help them think about the areas in which they would like to focus their learning.

Note: Throughout the course, you have the option of taking notes using either an online Notebook or pages from a printed Notebook. If you choose to take notes in the online Notebook, remember that your writing will be saved to the Notebook in the **My Work** tab. After you complete an entry in your Notebook, click the **Submit** button below the entry to save your notes. If you are having intermittent connectivity issues, you may want to type your Notebook entries offline in a word processing document and then paste them into the Notebook spaces.

If you prefer to use a printable Notebook, download the printable Notebook from the **Resources** tab > **About This Course** link. The Notebook is available as a word processing document that you can fill in electronically and then print, or as a PDF file that you can print and then fill in by hand. Keep in mind that both formats enable you to print the entire Notebook or selected sections.

Offline Tip: Downloading the Notebook is a good option if you have limited Internet connectivity.

Facilitation Tip

Reiterate the personal nature of the Notebook. Let participants know that it is not reviewed or handed in as a requirement for completing the course. The Notebook is simply a personal space for jotting notes—somewhat like a work journal—and is not shared with colleagues. Emphasize that participants must click the **Submit** button when they are finished entering information in the online Notebook to save their work. Point out that participants can download the Notebook and type their responses, or write them by hand.

Continue facilitating Step 3, where you introduce the Intel® Education *Help Guide* and the Curriculum Resource CD.

When you are ready, proceed to **Step 3**.

Module 1: Teaching with Projects

Activity 1: Getting Started

Step 3: Considering My Role as Curriculum Designer

Facilitator Corner

Classroom teachers are more than instructors—they are ‘facilitators’ of student learning, implementers, evaluators, and curriculum designers. You get to make decisions about how the curriculum is implemented in your classroom. You have choices in how you organize activities and respond to students' questions and ideas. The decisions you make impact the curriculum that your students experience. For this reason, we ask you to thoughtfully consider your role of curriculum designer as you examine the steps of good instructional design throughout the course and develop the elements of your Unit Portfolio.

Course Outcomes

In this course, you design and develop resources for a unit of study that you teach. The unit may range in length from a couple weeks to several months, but it should encompass a key area of study in your curriculum. Your Unit Portfolio (the unit of study along with the resources to support its implementation) is developed throughout the course's eight modules.

Organizing Your Unit Portfolio

To help you organize your Unit Portfolio, you create a main folder, referred to as the **Portfolio folder**, and subfolders in the main folder. Using this file management system assists you in organizing and managing both your works-in-progress and your completed portfolio components. All documents, publications, and presentations relating to your Unit Portfolio are saved in these folders so you or others can find them easily. A **Portfolio Checklist** (DOC; 1 page) in the **Resources** tab > **Assessment** link helps you keep track of your completed portfolio elements.

Classroom Tip: Giving students specific directory structures in which to save their files models an effective classroom management technique. This allows you and your students to store and retrieve saved work in a logical and efficient manner.

Using the Intel® Education Help Guide

At various points in this course, you may look to other resources to help you find answers to your questions. Often, you can search online or ask a peer when you are looking for help. When you are looking for technical help during this course, you can use the Intel® Education *Help Guide*. This digital resource provides step-by-step directions for completing technical skills. You can use the *Help Guide* to quickly learn how to do certain tasks on the computer as needed. The *Help Guide* is a valuable resource that is available to you while you are enrolled in this course and in the future.

Follow your facilitator's guided instructions for using the *Help Guide* and the Curriculum Resource CD.

Facilitation Tip

Model the use of the *Help Guide* for participants.

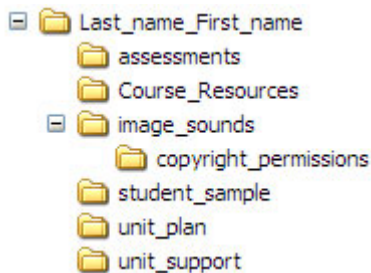
- Preview the topics contained in the *Help Guide*
- Demonstrate how to search for topics and navigate the skills
- Show how the *Help Guide* works in conjunction with the software on participants' computers

Demonstrate the *Help Guide* using the Curriculum Resource CD version, not the web-based version to see the "always on top" feature of the *Help Guide* steps. Then, review the *Help Guide* on the Web and point out that the window in the Web version does not stay on top if you click another window. Observe participants closely to ensure they understand how to use the *Help Guide*. Proficient use of the tool will help participants work independently when using technology throughout the course.

Tell participants that the resources on the Curriculum Resource CD are also available in the **Resources** tab. Mention that using the CD is beneficial if they have limited Internet connectivity.

Creating the Portfolio Folder

1. Examine the Portfolio folder structure as shown here.



2. Create the folder structure on your desktop. Use the *Help Guide* if you need help in creating the folder and subfolders.

Intel Teach Courses Skill 2.1: To create the course folder and subfolders

Note: If you are likely to use different computers while you work on your portfolio, consider creating your course folders and saving your files on an online storage site. See a list of sites in the **Transporting and Storing Files Using the Internet** (DOC: 3 pages) file in the **Resources** tab > **About This Course** link.

1:1 Tip: Helping students develop a system for organizing folders is especially important in a one-to-one computing environment.

Facilitation Tip

If participants are having difficulty creating and organizing their folders, demonstrate the creation of the Portfolio folder structure.

3. Save your **Login Information** (DOC; 1 page) document (received from your facilitator during the Orientation) in the **Course Resources** folder of your Portfolio folder. You will add login and password information to this document throughout the course as you register for additional resources.
4. Review the **Portfolio Checklist** (DOC; 1 page) found in the **Resources** tab > **Assessment** link. You use this checklist throughout the course to keep track of your progress. You will be creating all the items listed in the checklist. These items together make up a complete Unit Portfolio.
5. If desired, save the Portfolio Checklist in your **Course Resources** folder. Use the Intel® Education *Help Guide* if you need assistance.

Web Technologies Skills 2.1 (for Mozilla Firefox*), 4.1 (for Internet Explorer*), or 6.1 (for Safari*): To download a document from a Web site

When you are ready, proceed to **Step 4**.

Module 1: Teaching with Projects

Activity 1: Getting Started

Step 4: Viewing the Unit Plan Template

In this step, you review the Unit Plan Template and the different sections that you will create during the course. A complete Unit Plan Template, with detailed descriptions for how to complete each section, is available in the **Resources** tab > **Unit Portfolio** link. Your Unit Portfolio (the unit of study along with the resources to support its implementation) is developed throughout the course's eight modules.

Note: Notice that the components of the Unit Plan are not completed sequentially, and, in many cases, you start a section in one module and complete it in another.

Unit Plan Template

Unit Author	
First and Last Name	
School District	
School Name	
School City, State	
Unit Overview	
<ul style="list-style-type: none">○ Module 1: Think of a topic and possible project scenario for your unit. Revise this section as you work through the remaining modules.○ Module 2: Write first draft of your Unit Summary.	
Unit Title	
Unit Summary	
Subject Area	
Grade Level	
Approximate Time Needed	
Unit Foundation	
<ul style="list-style-type: none">○ Module 2: Choose standards, create objectives, and develop Curriculum-Framing Questions for your unit. Revise this section as you work through the remaining modules.	
Targeted Content Standards and Benchmarks	
Student Objectives/Learning Outcomes	

Curriculum-Framing Questions	
Essential Question	
Unit Questions	
Content Questions	
Assessment Plan <ul style="list-style-type: none"> ○ Module 2: Draft an Assessment Timeline and create an assessment to gauge student needs. ○ Module 5: Draft an Assessment Summary and create an assessment for your student sample. ○ Module 6: Create an assessment to foster student self-direction and update your Assessment Plan. 	
Assessment Timeline	
Before project work begins	Students work on projects and complete tasks
After project work is completed	
Assessment Summary	
Unit Details	
Prerequisite Skills	
Instructional Procedures	
<ul style="list-style-type: none"> ○ Module 4: Create a student sample and draft Instructional Procedures. Update Instructional Procedures to include: <ul style="list-style-type: none"> ○ Module 5: Assessment methods used throughout unit ○ Module 6: Differentiation strategies ○ Module 7: Facilitation and implementation strategies 	
Accommodations for Differentiated Instruction	
<ul style="list-style-type: none"> ○ Module 6: Draft ideas to support all learners and create student support material. 	
Special Needs Student	
Nonnative Speaker	
Gifted/Talented Student	

Materials and Resources Required for Unit

- **Module 3:** Identify Internet resources for research, communication, collaboration, and problem solving.
- **Module 4:** Incorporate into your Instructional Procedures.

Technology—Hardware

Technology—Software

Printed Materials

Supplies

Internet Resources

Other Resources

1. Open the **Unit Plan Template** (DOC; 3 pages) found in the **Resources** tab > **Unit Portfolio** link and save the template in your **unit_plan** folder.
2. Participate in a group discussion about the Unit Plan components and identify in which module you complete each section.

Facilitation Tip

Lead a discussion to ensure all participants understand the sections of the Unit Plan Template and recognize in which module they will complete each section. Discuss how the portfolio pieces build on each other and are incorporated into the Unit Plan Template during module activities. You might want to refer participants back to the **Portfolio Checklist** (DOC; 1 page) to reiterate where each portfolio piece is created in relation to the Unit Plan Template.

In addition, emphasize that the Unit Plan Template is the major organizer for a Unit Portfolio. Teachers will go back to school with thoughtfully developed and peer reviewed Unit Portfolios that they can implement in their classrooms.

Important: Master Teachers now proceed to the **Essentials Online with Facilitation** course to review facilitation materials. Follow your facilitator's guided instruction for accessing and using this course.

Congratulation! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next activity. You may go to the **Course Progress** checklist in the **My Work** tab at any time to monitor your progress.

When you are ready, proceed to **Design Instruction**.

Module 1: Teaching with Projects

Activity 2: Examining Good Instructional Design

Facilitator Corner

Teaching well—and engaging students in learning—requires planning and thoughtful unit design. In this activity, you examine and discuss the research supporting the instructional design of this course and the units you create. You also review the Essentials Online Course Portfolio Rubric. These resources can help you develop a unit that meets your learning goals and engages your students.

You complete two steps in this activity:

- In Step 1, you look at some research on ‘project-based learning’.
- In Step 2, you think about the curriculum design process, review the Portfolio Rubric, and then if desired, revise your personal learning goals for the course.

When you are ready, proceed to **Step 1**.

Module 1: Teaching with Projects

Activity 2: Examining Good Instructional Design

Step 1: Reviewing the Research

Facilitation Tip

To reinforce participants' understanding of the research basis for the course and the units they will design, ask participants to first read and then discuss the information in small groups. Consider using the **Spreadsheet for Creating Groups** (xls; 1 worksheet) in the **Resources** tab > **Facilitation** > **Facilitation Materials** link to create groups.

Research on learning and teaching indicate the importance of:

In-depth coverage of important subject matter

- "Superficial coverage of all topics in a subject area must be replaced with in-depth coverage of fewer topics that allows key concepts in that discipline to be understood.... There must be a sufficient number of cases of in-depth study to allow students to grasp the defining concepts in specific domains within a discipline" (Bransford, Brown, & Cocking, 2000, p. 20).
- "The key attribute of expertise is a detailed and organized understanding of the important facts within a specific domain. Education needs to provide children with sufficient mastery of the details of particular subject matters so that they have a foundation for further exploration with those domains" (Bransford et al., 2000, p. 239).

Big ideas to organize understanding

- "In each subject field there are some basic ideas which summarize much of what scholars have learned. ...these ideas give meaning to much that has been learned, and they provide the basic ideas for dealing with any new problems" (Bloom, 1981, p. 235).
- "Without a focus on the big ideas that have lasting value, students are too easily left with forgettable fragments of knowledge" (Wiggins & McTighe, 2005, p. 66).

'Ongoing assessment'

- "Formative assessments—ongoing assessments designed to make students' thinking visible to both teachers and students—are essential. They permit the teacher to grasp the students' preconceptions, understand where the students are in the 'developmental corridor' from informal to formal thinking, and design instruction accordingly. In the assessment-centered classroom environment, formative assessments help both teachers and students monitor progress" (Bransford et al., 2000, p. 239).
- Black, Harrison, Lee, and Marshall (2003) reviewed studies of assessment and found "innovations that include strengthening the practice of formative assessment produce significant and often substantial, learning gains. The students ranged over ages (from 5-year-olds to university

undergraduates), across several school subjects and over several countries" (p. 9).

- Extensive research on the impact of effective classroom assessment on student achievement has demonstrated remarkable gains of a full standard deviation or more in student scores on subsequent assessments of learning (Stiggins, 2004, p. 27).

Purposeful, authentic tasks

- "Learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to do something that has an impact on others—especially their local community" (McCombs, 1996; Pintrich & Schunk, 1996, cited in Bransford et al., 2000, p. 61).
- "Assignments calling for more authentic intellectual work actually improve student scores on conventional tests... Participation in authentic intellectual activity helps to motivate and sustain students in the hard work that learning requires. Since demands for authentic intellectual work pose questions of interest to students in their lives beyond school, students are more likely to care about both the questions they study and the answers they learn" (Newmann, Bryk, & Nagaoka, 2001, pp. 29–30).

Introducing Project-Based Learning

Project-based learning is a student-centered, instructional model. This type of learning develops content area knowledge and skills through an extended task that promotes 'student inquiry' and 'authentic' demonstrations of learning in products and performances. Project-based curriculum is driven by important questions that tie content standards and higher-order thinking to real-world contexts.

Project-based units include varied instructional strategies to engage all students regardless of their learning styles. Often, students collaborate with outside experts and community members to answer questions and gain deeper meaning of the content. Technology is used to support learning. Throughout project work, multiple types of assessment are embedded to ensure that students produce high-quality work.

Project-based learning benefits include:

- The encouragement of active inquiry and higher-level thinking (Thomas, 1998)
- Increased attendance, growth in self-reliance, and improved attitudes toward learning (Thomas, 2000)
- Academic gains equal to or better than those generated by other models, with students involved in projects taking greater responsibility for their own learning than during more traditional classroom activities (Boaler, 1999; SRI, 2000)
- Opportunities to develop complex skills, such as 'higher-order thinking', problem solving, collaborating, and communicating (SRI)
- Access to a broad range of learning opportunities in the classroom, providing a strategy for engaging culturally diverse learners (Railsback, 2002)

1:1 Tip: For research on how one-to-one computing enhances student-centered instruction, explore resources in the **Resources** tab > **One-to-One Computing** link.

When you are ready, proceed to **Step 2**.

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Module 1: Teaching with Projects

Activity 2: Examining Good Instructional Design

Step 2: Looking at Unit Planning

Reviewing the Instructional Design Process

To be successful, units need to be designed with the end in mind and organized around important concepts (Wiggins & McTighe, 2005). You should ensure that planned activities help your students meet the intended learning objectives and understand the unit's essential concepts or big picture. By reviewing curricular goals, objectives, and standards, and seeing how they all fit together, teachers can make choices for establishing curricular priorities. During this course, you develop a Unit Portfolio by completing the following steps:

1. **Determine specific learning goals** from content standards and 21st century skills to ensure students delve deeply into a significant, core area of your curriculum.
2. **Develop Curriculum-Framing Questions** to help guide the unit and help students focus on important themes and concepts, targeting the big ideas.
3. **Make an assessment plan** that demonstrates student-centered, ongoing, and reflective assessments.
4. **Design activities** that meet the learning needs of the students, connect to the world outside of the classroom, and include meaningful tasks or projects that incorporate the use of technology.

This simple four-step process is deceiving. Unit planning is not linear; it always involves circling back to previous steps to ensure alignment among unit components as shown in the following graphic.

The use of Curriculum-Framing Questions and the resulting activities should all work together to support the learning goals and targeted standards of the unit. Throughout your unit, you should incorporate multiple opportunities for assessment and monitoring to measure your students' progress.

Facilitation Tip

After allowing participants time to review the graphic, check for understanding by answering questions and clarifying concepts. Emphasize that unit planning is an iterative process and that the graphic illustrates how knowledge builds when participants revisit key concepts as they work through the modules.

In addition, review the concept of backward design, and emphasize the importance of identifying standards and creating objectives at the beginning of the unit planning process.

Reviewing the Portfolio Rubric

Reviewing a rubric before beginning work on a project is valuable for communicating and clarifying expectations. Review the criteria outlined in the Portfolio Rubric to understand expectations for your Unit Portfolio.

1. Find the paper copy of the **Portfolio Rubric** in your folder. For future reference, the **Portfolio Rubric** (DOC; 2 pages) is available in the **My Work** tab > **Portfolio Rubric** link and the **Resources** tab > **Assessment** link.
2. Highlight specific areas on the rubric that are important for you to consider as you develop your Unit Portfolio.

Note: If you do not have a folder, you may save a copy of the **Portfolio Rubric** (DOC; 2 pages) into your **Course Resources** folder. Follow your facilitator's guided instructions for highlighting areas of the rubric using the highlighting feature or use the following *Help Guide* skill:

Word Processing 11.4: To use highlighting to review a document

Classroom Tip: Share rubrics with your students prior to the start of a project so they clearly understand project expectations.

Facilitation Tip

Prompt participants to take out the Portfolio Rubric. Briefly review the key points together.

If you are not using a folder, be ready to help participants save a copy of the Portfolio Rubric into their **Course Resources** folder and use the highlighting feature.

Revising Learning Goals

Now that you reviewed the planning process and the Portfolio Rubric, revisit your initial learning goals from Activity 1: Getting Started. Revise your goals if desired, using your online or downloaded **Notebook**.

Congratulations! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next activity. You may go to the **Course Progress** checklist in the **My Work** tab at any time to monitor your progress.

When you are ready, proceed to **Look at Projects**.

Module 1: Teaching with Projects
Activity 3: Looking at Projects

Facilitator Corner

You have many options for incorporating aspects of project-based learning in your classroom, ranging from those that address specific subjects in just a few days to those that encompass a whole year's curriculum. During this activity, you review the characteristics of projects and consider how you might include some elements of project design into your Unit Plan.

In this activity, you complete two steps:

- In Step 1, you look at different ways of incorporating projects into your teaching.
- In Step 2, you explore some Unit Portfolios and become familiar with their contents.

When you are ready, proceed to **Step 1**.

Module 1: Teaching with Projects

Activity 3: Looking at Projects

Step 1: Considering Project Approaches

Project-based learning is an instructional model that involves students in investigations of compelling problems. Projects that make for stronger classroom learning opportunities can vary significantly in subject matter and scope, and can be delivered at a wide range of grade levels. Projects put students in an active role, such as:

- Problem solver
- Decision maker
- Investigator
- Documentarian

Projects serve specific, significant educational goals. Projects are not diversions, adds-ons to the "real" curriculum, or mere activities with a common theme. Project-based curriculum is driven by important questions that tie content standards and higher-order thinking to real-world purposes. Students often take on real-life roles and have meaningful tasks to complete.

The following characteristics help define effective project-based units:

- Students are at the center of the learning process.
- The project focuses on important learning objectives aligned with standards.
- The project is driven by Curriculum-Framing Questions.
- The project involves ongoing and multiple types of assessment.
- The project involves connected tasks and activities that take place over a period of time.
- The project has real-world connections.
- Students demonstrate knowledge and skills through products and performances that are published, presented, or displayed.
- Technology supports and enhances student learning.
- Thinking skills are integral to project work.
- Varied instructional strategies support multiple learning styles.

Note: This **Project Characteristics** (DOC; 1 page) list is also available in the **Resources** tab > **Assessment** link, and as a paper copy in your folder.

While working on projects, students develop real-world, 21st century skills—many of the same skills desired by today's employers—such as the ability to:

- Work well with others
- Make thoughtful decisions
- Take initiative
- Solve complex problems
- Self-manage
- Communicate effectively

Note: A detailed list of **21st century skills** (DOC; 2 pages) is available in the **Resources** tab > **Thinking** link.

Not all units need to incorporate project-approaches to learning, but when appropriate, the integration of a project can greatly enhance student learning. Some units are project-based from start to finish, while other units only incorporate a project as a culminating experience or in one part of the unit. In the next step, you examine different ways projects are integrated into a unit. If you choose to include a project in your unit, refer to the **Project Characteristics Checklist** (DOC; 1 page) from the **Resources** tab > **Assessment** link or the paper copy in your folder.

Facilitation Tip
Continue facilitating the next step so that you can introduce using multiple windows in the course.

When you are ready, proceed to **Step 2**.

Module 1: Teaching with Projects

Activity 3: Looking at Projects

Step 2: Viewing Unit Portfolios

Facilitator Corner

In this activity, you look at concrete examples of units that incorporate projects in different ways. You also analyze several Unit Portfolios using the Project Characteristics Checklist you reviewed in the previous step.

Review a Sample Unit Plan

Follow your facilitator's walk-through of an example Unit Plan, noting the emphasis on various project characteristics.

Facilitation Tip

Model how the **Fractions Made Visual** addresses the features in the **Project Characteristics Checklist** (DOC; 1 page). Point out how different features are integrated into various sections of the Unit Plan.

Inform participants that the sample Unit Portfolios are expanded versions of Unit Plans created by teachers participating in the Intel® Teach Program. Two of the Unit Portfolios in particular, *Romeo and Juliet* and *The Great Bean Race*, incorporate many more samples than a typical Unit Portfolio created during this course.

Browse Unit Portfolios

Help Guide: Use the Intel® Education *Help Guide* if you need assistance in completing any technology skills identified below.

1. View sample **Unit Portfolios**. For future reference, the portfolios are located in the **Resources** tab > **Unit Portfolios** link.

Note: Some student samples have sound (voice recordings, music, and sound effects). Be sure to enable sound on your computer and turn on speakers or use headsets, if available.

Operating Environment Group 3: Changing Device Settings on Your Computer

2. As you review the Unit Portfolios, consider where and how they address the various elements of the **Project Characteristics Checklist** (DOC; 1 page).

Note: You may choose to use either the paper copy of the Project Characteristics Checklist as you complete this activity or open multiple windows side-by-side as you view the Unit Portfolios and compare them to the checklist. To view two windows at the same time, resize and move each window, one to the left side of your monitor and one to the right side of your monitor. If needed, follow your facilitator's demonstration for this skill or use the directions provided in the **Working with Multiple Windows** (one for

Windows and one for Mac) documents found in the **Resources** tab > **About This Course** folder.

3. If desired, take notes on any ideas you could adapt for use in your own Unit Portfolio in your online or downloaded **Notebook**.
4. (Optional) Discuss the following questions briefly with a partner:
 - In what ways did the units incorporate projects?
 - How could you use these project ideas to enhance your own units?

1:1 Tip: If you are attending a training with a one-to-one computing focus, follow the instructions on the **1-to-1 Computing Scenarios** activity located in the **Resources** tab > **One-to-One Computing** link. Additional time is provided in this activity for a jigsaw discussion.

Facilitation Tip

Be prepared to demonstrate how to open, resize, and view multiple windows in the online environment. This skill helps participants in several upcoming activities where they view samples in one window while taking notes in another window.

To keep the optional discussion about incorporating projects into units focused and brief, encourage participants to discuss the questions with a person sitting near them.

Tell participants they will complete Step 1 of Activity 4: Plan Publication independently and come together again for Step 2, where you will do a quick demonstration of tagging/bookmarking.

Congratulations! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next activity.

When you are ready, proceed to **Plan Publication**.

Module 1: Teaching with Projects

Activity 4: Planning a Publication to Explain Projects

Facilitator Corner

Students, parents, and community members accustomed to traditional teaching methods of lecture, memorization, and testing often have incorrect assumptions about project-based learning. This is especially true among those who are very successful in teacher-centered classrooms.

During the next few activities, you first plan and then create a publication to explain projects to an audience of your choosing. Your audience might be your students, their parents, or your school's teachers and administrators. You may want to address how your expectations of students may differ from the expectations in more traditional classrooms. Or you might focus on how projects meet standards, the changing roles of students in project-based classrooms, or how projects are assessed. The activities can help you decide on the goal of your publication and which audience is most appropriate for your needs.

Print publications are an effective way for you to communicate with stakeholders while modeling good communication strategies for your students. You can choose among a variety of publication types—newsletter, newspaper, brochure, poster, or other print material—to help you meet your goal.

In this activity, you first do some preliminary planning for your publication. You then conduct research to learn more about project-based learning and view sample publications for design and content ideas. Consider how you currently use—or plan to use—projects in your classroom. Design your publication to answer the questions you anticipate your students or their parents might have. Sharing your publication at the beginning of the unit can help set expectations and prepare your audience for the work ahead.

You complete three steps in this activity:

- In Step 1, you plan your publication to explain how projects are used in your classroom.
- In Step 2, you research project-based learning.
- In Step 3, you examine sample publications on project-based learning.

In Activity 5, you create your publication using word processing software.

Classroom Tip: Print publications can be excellent projects for students. Print publications allow students to conduct research and share their thoughts with an audience in a format that can be useful throughout their school years and their lives.

When you are ready, proceed to **Step 1**.

Module 1: Teaching with Projects

Activity 4: Planning a Publication to Explain Projects

Step 1: Planning the Publication

Facilitation Tip

Explain to participants that the purpose of this activity is twofold:

- To understand the benefits of using publication software so you can choose the most appropriate tool when you create your student sample
- To create a resource to communicate with others about the reasons for doing projects in your classroom

Think about how you currently use projects or plan to use projects in your classroom. What questions might your students, their parents, or other teachers in your school have about projects or project-based learning? How could you best answer their questions? What would you need to consider in your publication to explain projects? Use the Planning the Publication form in your **Notebook** to help you plan your publication.

1:1 Tip: You may want to include information in your publication on what additional responsibilities and requirements are expected of students who are assigned a computer in a one-to-one environment. Consider providing a "day-in-the-life" article of a fictional student in your classroom to help clarify how assignments and work will be different in your classroom because of the ready access of computers, the Internet, and other technological resources.

When you are ready, proceed to **Step 2**.

Module 1: Teaching with Projects

Activity 4: Planning a Publication to Explain Projects

Step 2: Researching Project-Based Learning

During this step, you locate information you need about projects at the Intel® Education Web site and keep track of the information using one of the online tagging or bookmarking sites.

Tagging and bookmarking sites allow you to save and annotate your favorite Web sites so you can access them online from any computer. Tagging sites have the additional feature of allowing you to "tag" saved Web sites with key words so you can categorize and organize your saved Web sites in new ways; other users can also take your tagged sites and add them to their own collections.

Facilitation Tip

Demonstrate how to use a tagging or bookmarking Web site for your participants. Keep your demonstration to 5 minutes or less, covering the major features of the site, leaving most of the time for participants to conduct their research in the *Designing Effective Projects* site.

1. Go to the online and tagging resource provided to you by your facilitator.
 - a. Register for an account.
 - b. Review instructions for using the online resource.
 - c. Record the URL of the Web site, your login ID, and password in your Login Information document saved in your **Course Resources** folder.

Note: You can find additional sites to consider in the **Online Tagging and Bookmarking Sites** in the **Resources** tab > **Collaboration** link.

2. Add the online resource site address to your **My Links** section on the **Home** tab.
3. Go to the **Project Design** section of the *Designing Effective Projects* resource.
4. Tag or bookmark the site.
5. Explore the following sections, and decide which areas you need additional information about for your publication. Bookmark/tag as needed:
 - a. **Characteristics of Projects:** The design elements used in planning a project-based unit
 - b. **Planning Projects:** Help with designing a project-based unit for your classroom, including how to use ongoing, student-centered assessment strategies
 - c. **Curriculum-Framing Questions:** How Essential, Unit, and Content Questions spark interest and guide learning to higher levels of student thinking and engagement

- d. **Projects in Action:** Examples of project-based approaches, changes in the roles of teachers and students, and collaboration with those outside the classroom

Note: For in-depth information on assessment, you can visit the *Assessing Projects* resource at www.intel.com/education/AssessingProjects. You have an opportunity to examine this resource in a later module.

Optional: For additional information on project-based learning, refer to the **Resources** tab > **Project Learning** > **Related Web Links**. Bookmark/tag Web sites as needed.

When you are ready, proceed to **Step 3**.

Module 1: Teaching with Projects

Activity 4: Planning a Publication to Explain Projects

Step 3: Viewing Sample Publications

View **sample publications** for design and content ideas for your newsletter, newspaper, brochure, or poster. If you want to take notes, you may want to open another window to review the samples and enter your notes in your online **Notebook**.

Facilitation Tip
Review a selected publication with participants, examining its content, design, and purpose to ensure that participants understand the purpose of the publication.

Note: For future reference, the sample publications are available in the **Resources** tab > **Project Learning** > **Sample Publications** link.

Congratulations! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next activity.

When you are ready, proceed to **Create Publication**.

Module 1: Teaching with Projects

Activity 5: Creating My Publication

Facilitator Corner

Use the information you gathered in the previous activity to help you create a publication that explains how and why projects are used in your classroom.

In this activity, you complete two steps:

- In Step 1, you begin to create your publication.
- In Step 2, you add basic and advanced design features to your publication.

When you are ready, proceed to **Step 1**.

Module 1: Teaching with Projects

Activity 5: Creating My Publication

Step 1: Starting My Publication

Help Guide: Use the Intel® Education *Help Guide* if you need assistance in completing any technology skills identified below.

1. If desired, quickly sketch your ideas for your publication in a storyboard.
 - a. Open the **storyboard document** for the newsletter, newspaper, brochure, or poster file in the **Resources** tab > **Project Learning** > **Storyboards** link.
 - b. If you are going to use a storyboard to type your initial ideas, save the document into your **unit_support** folder in your Portfolio folder, and then open the template from your Portfolio folder.
Web Technologies skill 2.1(for Mozilla Firefox*): To download a document from a Web site,
OR
Web Technologies skill 4.1(for Internet Explorer*): To download a document from a Web site,
OR
Web Technologies skill 6.1 (for Safari*): To download a document from a Web site
 - c. Type the topics or titles directly into the sections of the publication or print the document and fill it in by hand.
2. Start the word processing software.
Word Processing Skill 1.1: To start word processing software
3. Consider customizing the toolbars, menus, and settings for your computer so that everyone has the same buttons and menu items. This change makes demonstrated instructions easier to follow.
Word Processing Skill 1.6: To customize toolbars and menus

Classroom tip: Have your classroom or lab computers set up in a consistent manner for easier classroom instruction.

Facilitation Tip

Be prepared to demonstrate how to set up a publication with text boxes. Use the Web version of the *Help Guide* for your demonstration. Consider asking all participants to customize their toolbars, menus, and settings the same so that everyone has the same buttons and menu items. This takes time away from work, but could prove useful when you are helping participants throughout the course.

4. Set up the document for the appropriate publication style. Pick one of the following options:
 - Open a template for the desired publication (newsletter, newspaper, brochure, or poster) from within the word processing application.
Word Processing Skill 10.3: To use a built-in document style, or template, to start a new document
 - Save a **template** from the **Resources** tab > **Project Learning** > **Templates** link. If none of these templates meets your needs, you can download a template from the Internet.

Word Processing Skill 10.5: To find and save a word processing template from the Web

Note: Before you start typing, remember to save the template to the **unit_support** folder in your Portfolio folder, and then open the template from your Portfolio folder.

Word Processing Skill 10.4: To make and use your own document style, or template

- Create a new publication from scratch. Set up the page design, create text boxes to lay out the text areas for the desired publication (newsletter, newspaper, brochure, or poster), and resize them.
Word Processing Skill 6.4: To set up a document to print sideways, or landscape
Word Processing Skill 6.9: To add a box that you can type words into
Word Processing Skill 6.10: To make a text box bigger or smaller
5. Save your publication frequently in the **unit_support** folder in your Portfolio folder.

When you are ready, proceed to **Step 2**.

Module 1: Teaching with Projects

Activity 5: Creating My Publication

Step 2: Adding the Basics and Advanced Design Features to My Publication

Create the content and design of your publication to help support your message.

Help Guide: Use the Intel® Education *Help Guide* if you need assistance in completing any technology skills identified below.

Basic Features

1. If you are using a template, replace placeholder text with your own.
2. Change the appearance of your text to match your message and space restraints.
Word Processing Group 3: Changing the Look of Your Words
3. Change the appearance of your paragraphs to enhance your text by changing the spacing, shading, and borders.
Word Processing Group 4: Making Paragraphs and Lines of Words Look Good
4. Add a text box to insert new text in a specific place.
Graphics Skill 5.1: To show the Drawing toolbar
Graphics Skill 7.2: To type words into a text box
Word Processing Skill 6.9: To add a box that you can type words into
Word Processing Skill 6.10: To make a text box bigger or smaller
Word Processing Skill 6.13: To set the exact size of a picture, text box, or shape
5. Link text boxes to allow the text to flow from one box to another.
Word Processing Skill 6.11: To link text boxes so words flow from one into another
6. Insert pictures to support your content:
Word Processing Group 5: Adding Pictures to Your Pages
 - a. Save pictures from the Web.
Note: Tag the sites where you obtained any pictures, so you can properly cite sources later.
 - b. Change a picture's size or location.
 - c. Change how text interacts with the picture, such as flowing around the picture, going behind or in front of the picture, or lining up with the picture.
 - d. If desired, compress the pictures to help keep your file sizes small.

Additional Design Features

1. If available, add a design theme to change your publication's font and color schemes.
Word Processing Skill 6.19: To pick and use a design theme
2. Insert a table to organize information.
Word Processing Group 7: Working with Tables
3. Draw shapes or borders to call attention to important details.
Graphics Group 5: Using the Drawing Tools
Graphics Group 6: Changing the Look of Lines and Shapes
4. Insert a chart or graph to visually display data.
Word Processing Group 8: Working with Charts and Graphs

Congratulations! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next activity.

When you are ready, proceed to **Reflect on Learning**.

Module 1: Teaching with Projects

Activity 6: Reflecting on My Learning

Facilitator Corner

At the end of each module, you reflect on the key concepts addressed in the module. In this activity, you first review this module's guiding questions and key points. Then you reflect on your learning in your personal blog.

Review the guiding questions and key points for **Module 1: Teaching with Projects** below. Think about the ideas and materials you created that can be used in your classroom, instruction, or planning.

Module Questions

- How can projects help my students meet standards and develop 21st century skills?
- How can I use projects to enhance student learning?

Key Points

- Research on learning and teaching indicates the importance of:
 - In-depth coverage of important subject matter
 - Big ideas to organize understanding
 - Ongoing assessment
 - Purposeful, authentic tasks
- Projects concentrate on scenarios that provide rich learning opportunities. They involve students in problem solving investigations and other meaningful tasks. Projects establish connections to life outside the classroom and address real world concerns.
- The steps for designing projects include:
 - a. Determining specific learning goals (from standards and 21st century skills)
 - b. Developing Curriculum-Framing Questions
 - c. Making an assessment plan
 - d. Designing activities

In the following modules, you will build on these concepts as you discuss ways to support and encourage higher-order thinking skills through the use of standards-based projects and student-centered activities.

When you are ready, proceed to **Step 1**.

Module 1: Teaching with Projects

Activity 6: Reflecting on My Learning

Step 1: Blogging My Journey

Reflection is a critical, but often neglected, component of the learning process. The everyday context of teaching leaves little time for extended, serious contemplation of teaching practice. Of course, teachers reflect on what happens in their classrooms every day. They think about which activities “worked” or “didn’t work.” They assess their students’ learning in a variety of ways, but the kind of systematic thinking that results in powerful new learning is often neglected in place of more practical concerns.

Take this opportunity to devote some time to an in-depth study of your learning, to embrace the ambiguous and contradictory aspects of teaching in your classroom.

Create a personal blog in the course blog to reflect on your learning and interact with your facilitator and colleagues about issues related to the course. Reply to your colleagues’ entries to extend and enhance these important conversations.

Facilitation Tip

Taking time to step back from experience to stop and reflect is necessary for in-depth learning. Although many learners are impatient with this step and are eager to move on to the next activity, communicating the importance of this step to participants will encourage them to take it seriously and enhance their learning.

Direct participants to the course blog they registered for during the Orientation. Ensure all participants can access the blog, and help individuals as needed.

Help participants set up their personal blogs during this activity if they did not do so during the Orientation. Explain the differences between the facilitator’s blog and each participant’s personal blog.

1. Find the blog site you registered for during the Orientation module. The login information and address is filled in on the Login Information document you were sent during Orientation, which should be saved in your **Course Resources** folder.
2. Add the blog site address to your **My Links** section on the **Home** tab.
3. If you did not set up your personal blog during Orientation, take some time to set it up now. Follow your facilitator’s guided instructions, if necessary.
4. Go to your personal blog, create an entry that reflects on your role as an instructional designer. Give it a title and invite comments from your colleagues.
5. Write about any other insights, questions, or concerns you want to address in your reflection.

Note: If you are having intermittent connectivity issues, you may want to type your blog offline in a word processing document and then paste it into your personal blog. An alternate method of ensuring you do not lose your work is to copy your blog text into the temporary clipboard before you click **Submit**.

Word Processing Skill 2.6: To copy words or text

6. After you finish writing your blog reflection, participate in a discussion with the whole group regarding your thoughts or concerns about using the online environment to complete activities.

Classroom Tip: Consider how 'reflection' activities like this one—which will occur regularly at the end of each module—could enhance student learning if students make it a part of their daily lives to reflect on how and what they are learning.

Facilitation Tip
<p>This discussion is a time for the facilitator to ascertain if groups or individuals are having difficulty with the online environment. Gather information about concerns or confusion regarding the completion of the activities or using any of the course features. Provide individual assistance as needed.</p> <p>Facilitate the Wrap-Up activity and provide instructions about the Planning Ahead activities throughout the course.</p>

Congratulations! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next activity.

When you are ready, proceed to **Wrap-Up**.

Module 1: Teaching with Projects

Wrap-Up

Facilitator Corner

Congratulations! You completed **Module 1: Teaching with Projects**. In the next module, you will begin to plan your unit. Before you move on to the next module:

1. Complete the **End of Module Survey**. Click the **Submit** button when finished.
2. Go to the **Course Progress** checklist. Review the appropriate boxes in the checklist to ensure they are checked for the Module 1 activities you completed. If you make any changes, click the **Submit** button at the bottom of the page.

Remember to post your thoughts, queries, and comments in the Teachers' Lounge discussion forum or your personal blog at any time.

Facilitation Tip

You need to decide if you want your participants to complete the optional Planning Ahead activities in this Module and in Module 2. If so, you will need to adjust the agenda by adding 30 minutes to complete the Module 1 Planning Ahead activity and another 30 minutes to complete the Module 2 Planning Ahead activity. Ensure that participants understand that the remaining Planning Ahead activities are completed on their own time and are not optional. The activities are intended to help participants prepare for the upcoming module. They should be considered similar to homework activities, which are not counted as part of the course hours.

Review class surveys for completion before you provide your own feedback on the module. Also, remember to check for Teachers' Lounge discussions and blog entries related to this module.

When you are ready, proceed to **M2: Planning My Unit** or the optional **Plan Ahead** activity.

Module 1: Teaching with Projects

Planning Ahead (Optional)

Thinking about My Unit Plan and Project Design

Facilitator Corner

After working through this module's activities, you probably have an idea or two about what topic you might want to address in your Unit Plan. In this activity, you begin to plan your unit. First, you think about some possible components of your unit. Then, you collect any curricular materials you might need to create your Unit Plan.

1. Use the questions in the Thinking about My Unit Plan **Notebook** to refine your project idea.

1:1 Tip: You may want to review some of the Web resources listed in the **Resources** tab > **One-to-One Computing** link as you think about these questions.

2. Collect and bring materials (such as textbooks, curricular support materials, grade-level expectations, district standards, samples of student work, and so forth) that will help you develop your Unit Plan. If desired, list the items you need to collect in your **Notebook**.

Congratulations! You completed this activity. Please check the **Activity** box and click the **Submit** button before moving on to the next module.

When you are ready, proceed to **M2: Planning My Unit**.