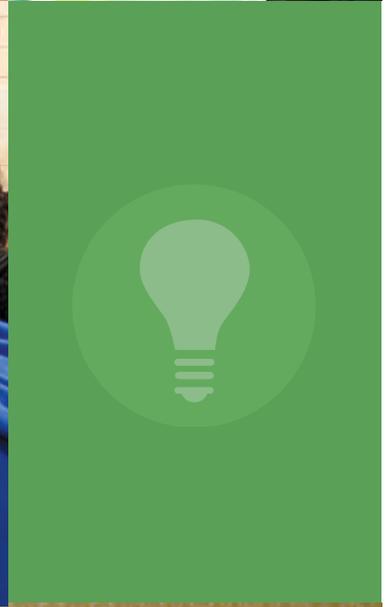


# CREATING CURRICULUM UNITS AT THE LOCAL LEVEL



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This document was prepared by the  
Massachusetts Department of Elementary and Secondary Education  
Mitchell D. Chester, Ed.D.  
Commissioner

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Mitchell D. Chester, Ed.D.  
Commissioner

September 2013

Dear Colleagues,

I am pleased to present this guidance document, *Creating Curriculum Units at the Local Level*, to support districts seeking to develop your own model curriculum units. The goal of the Department's Model Curriculum Project, one of Massachusetts/ Race to the Top initiatives, is to develop 100 curriculum units that exemplify the rich content and potential of the new standards in the *2011 Massachusetts Curriculum Frameworks for English Language Arts/Literacy and Mathematics incorporating the Common Core State Standards*, and the standards in our *Frameworks for History and Social Science* and *Science and Technology/Engineering*. Approximately 300 educators from across the Commonwealth, along with ESE staff, have worked together to develop model curriculum units in the following content areas: Career Vocational/Technical Education, English Language Arts/Literacy, History and Social Science, Mathematics, and Science and Technology/Engineering. The curriculum development process employed in development of the Department's Model Curriculum Units has been documented in videos produced by our partners at WGBH. These videos are designed to be used in conjunction with this manual, and links are provided in the text. *Creating Curriculum Units at the Local Level* references examples from units developed through the Model Curriculum Project, templates used in the process, an overview of Understanding by Design (UbD) as utilized in these units, and much more. To access the Model Curriculum Units themselves, go to <http://www.doe.mass.edu/candi/model/>.

We envision this document as a starting point for a group of educators, in a team, a school, or a district trying to meet the demands of the curriculum frameworks. It can serve as a resource for professional study groups, as a reference for anyone wanting to engage in curriculum development, or simply to gain a better understanding of the process used to develop these Model Curriculum Units.

Thank you for your interest in undertaking this important work. We hope this resource is helpful and supports your local curriculum development efforts.

Sincerely,

Mitchell D. Chester, Ed.D.  
Commissioner of Elementary and Secondary Education



## TABLE OF CONTENTS

<b>CHAPTER 1:</b> Introduction to the Massachusetts Curriculum Design Project . . .	7
<b>CHAPTER 2:</b> Stage One – Understandings and Essential Questions . . . . .	9
<b>CHAPTER 3:</b> Stage Two – Evidence . . . . .	19
<b>CHAPTER 4:</b> Stage Three – The Learning Plan and Lesson Plans . . . . .	24
<b>CHAPTER 5:</b> Putting It All Together . . . . .	30



# CHAPTER 1

## Introduction to the Massachusetts Curriculum Design Project

Welcome to the Massachusetts Curriculum Design Project. The Department of Elementary and Secondary Education (ESE) has joined forces with educators across the state to develop Model Curriculum Units (MCUs) reflecting the 2011 Massachusetts Curriculum Frameworks that incorporate the Common Core State Standards and prepare students to be “college and career ready.” But new frameworks do not teach students. Only you, our Massachusetts teachers, can do that, and no one knows students like teachers do.

To help you bring the Massachusetts Curriculum Frameworks to life in your classrooms, this project offers MCUs to use as written or to adjust to meet the needs of your students. These units represent the collaborative efforts of teams consisting of teachers and curriculum specialists from around the state who met in an ambitious project spearheaded by the Massachusetts Department of Elementary and Secondary Education. Together, these teams designed curriculum units that reflect the 2011 Massachusetts Curriculum Frameworks that incorporate the Common Core State Standards as well as our own Frameworks in History and Social Science and Science, Technology/Engineering for use in their own classrooms and for adaptation by other teachers around the state. The Curriculum units are available at <http://www.doe.mass.edu/candi/model/>.

But this project resulted in more than the creation of model units. Using the Understanding by Design (UbD) model of curriculum design, these teacher-teams worked in collaboration with ESE staff members to chart a course through the curriculum design process. Their experience was documented in video by WGBH; this video is available as a resource to help you navigate the curriculum design process. This manual accompanies the videos and describes the steps in the curriculum design process and includes links to the following resources:

- Video clips
- Model Curriculum Units
- Massachusetts Curriculum Frameworks
- Model Curriculum Template
- Quality Review Rubrics

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*“There’s so much power in teachers and administrators understanding this process and really thinking about THEIR students: What are we going to teach? When are we going to teach it? Making those decisions about the curriculum is really important. We’ve got standards and we will have an assessment, but in how we link these two, YOU are the critical piece.”*  
-----

– Julia Phelps  
Associate Commissioner

## WATCH

Begin by watching the first segment of *The Massachusetts Curriculum Development Project*: <http://www.youtube.com/watch?v=rzpeLQMKLKc> (approximately 0:00–3:23). You will return to this video to watch the other segments as you continue through this document.

### Why Understanding by Design?

Understanding by Design (UbD) is a curriculum design model for planning and developing curriculum and instruction. Understanding by Design helps you think about your curriculum not as a textbook or a list of instructional activities, but as an approach to developing your students' understandings through conceptual knowledge and skills.

Using a process of “backward design,” you begin at the end, with the standards, understandings, knowledge, and skills that you want students to acquire. You then plan backward, using a three-stage instructional process:

- Stage 1: Determine the broad ***understandings*** that students will gain.  
*“What do you want students to know and be able to do?”*
- Stage 2: Decide how students will demonstrate their understanding and what criteria will be used to measure understanding.  
*“How will you know that they’ve learned it?”*
- Stage 3: Plan the rich instruction and learning experiences that help your students construct new knowledge and skills and develop the depth of understanding required by the Standards.  
*“What will you do to help them learn it?”*

You can explore these stages in more detail in the following sections as you watch videos of teachers working through each stage together. These teachers will be working with the UbD template; in each instance, we will provide you with the sections of the template upon which they’re working. A blank template is available at <http://www.doe.mass.edu/candi/model/>.

-----  
“One of the things that this process forces you to do [is] to start with the end in mind. What are the student outcomes that you hope to achieve?”

– Derek Vandegrift  
History Teacher  
Waltham High School  
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## CHAPTER 2

### Stage 1: Understandings and Essential Questions

*If the desired end result is for learners to...*

The Understanding by Design model aims for student learning that includes both the content and process knowledge that characterize **understandings**. You begin the process by identifying the standards that you want to address. This will ground your unit and help chart its direction. Although the standards do not capture everything that can or should be taught, they do define critical student understandings and learning outcomes to guide your planning and instruction.

#### Shifts in the Standards

##### **English Language Arts and Literacy Pre-K–12**

For pre-K to 12th grade, the 2011 *Massachusetts Curriculum Framework for English Language Arts and Literacy*, that incorporates the Common Core State Standards, includes the literacy skills for both English language arts and history/social studies, science, and technical subjects. Shifts in the 2011 *Massachusetts Curriculum Framework for English Language Arts and Literacy* highlight reading comprehension and close reading of increasingly complex narrative and informational texts, in conjunction with the use of text-based evidence to support ideas and opinions. Literature and informational text are given equal weight, which indicates a shift toward incorporating more content-rich nonfiction to build students' knowledge. The new standards also emphasize:

- Development of students' academic language and vocabulary.
- The importance of analysis and reasoning, with application to research and to the development of sophisticated arguments and explanations through both writing and speaking.
- The need for students to routinely write about the content they are learning and to draw evidence from texts in order to explain, inform, or support a position.

##### **Mathematics**

At both the pre-K to grade 8 and high school levels, the 2011 *Massachusetts Curriculum Framework for Mathematics*, that incorporates the Common Core State Standards, includes Content and Practice Standards and emphasizes rich conceptual understanding, reasoning, and problem-solving abilities. As stated

in the Tri-State/EQuIP Rubric (June 13, 2013) shifts in the standards emphasize focus, coherence, and rigor and include the following:

- Focus: Units should target the major work of the grade and provide high expectations
- Coherence: Units should develop content through reasoning about the new concepts on the basis of previous understanding, making connections across domains, clusters, and other learning progressions
- Rigor: Units should require students to engage with and demonstrate challenging mathematics with appropriate balance among
  1. Conceptual understanding
  2. Application
  3. Procedural skill and fluency

### **Literacy in History/Social Studies, Science, and Technical Subjects**

Shifts in the 2011 ELA/Literacy Standards call for using the existing *Massachusetts History and Social Science Curriculum Framework* and the *Massachusetts Science and Technology/Engineering Curriculum Framework* in conjunction with the Standards for Literacy in History/Social Studies, Science, and Technical Subjects included in the 2011 *Massachusetts Curriculum Framework for English Language Arts and Literacy*. The framework states:

Reading is critical to building knowledge in history/social studies as well as in science and technical subjects. College and career ready reading in these fields requires an appreciation of the norms and conventions of each discipline, such as the kinds of evidence used in history and science; an understanding of domain-specific words and phrases; an attention to precise details; and the capacity to evaluate intricate arguments, synthesize complex information, and follow detailed descriptions of events and concepts. In history/social studies, for example, students need to be able to analyze, evaluate, and differentiate primary and secondary sources. When reading scientific and technical texts, students need to be able to gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts. (*Massachusetts Curriculum Framework for English Language Arts and Literacy*, 2011, p. 73)

For more information, please check out the Massachusetts Curriculum Frameworks:

<http://www.doe.mass.edu/frameworks/current.html>.



### **TIP**

As you plan your units, it helps to remember that closely integrating literacy and language into your lessons will create more supportive instructional contexts that benefit all students. Do not think about literacy and language as “one more thing” to teach, but rather as vital tools to increase curricular accessibility and expand the instructional options at your disposal. By integrating more literacy and language into your instruction, you multiply the resources available to students and further support their learning.

Next, with the standards in mind, you determine the big ideas that you want students to gain; these are the **understandings**. Think of them as what students will know and how they will see the world differently because of this unit. **Understandings** are anchored in the standards and may be visited and revisited over the course of a school year or even over several years.

As an example, look at this third-grade content literacy science unit on weather. The unit begins with the following **understandings**, or big ideas, that students will gain from participating in the unit.

*Students will understand that...*

- Weather refers to conditions in the atmosphere on any given day; climate refers to a pattern of weather conditions of a place over many years.
- Different regions on Earth have different weather patterns and climate.
- Extreme weather conditions can be dangerous to people and the land.
- People can prepare for extreme weather to remain safe.

These ideas then drive teachers' planning and determine the knowledge and skills that they will need to teach.

Similarly, for a sixth-grade math unit on rates and ratios, the **understandings** focus on developing students' conceptual awareness of the function of ratios and their relationship to quantities as well as their practical value for analyzing quantifiable information in the world around us.

*Students will understand that...*

- A ratio or a rate expresses the relationship between two quantities. Ratio and rate language is used to describe a relationship between two quantities (including unit rates).
- A rate is a type of ratio that represents a measure, quantity, or frequency, typically one measured against a different type of measure, quantity, or frequency.
- Ratio and rate reasoning can be applied to many different types of mathematical and real-life problems (rate and unit rate problems, scaling, unit pricing, statistical analysis, etc.).

Identifying the big ideas and conceptual **understandings** that you want students to gain from your unit begins the process of backward design. As you work through your unit, these **understandings** will guide you.

Once you identify **understandings**, the next step is to create **essential questions**. **Essential questions** are open-ended, thought-provoking questions that lead to the **understandings** of the unit. Good **essential questions** are engaging, understandable by students, and broad enough to capture the big ideas of the unit. Over the course of the unit, students develop the content knowledge and skills that help them begin to answer the questions.

Teachers and students can, and should, return to the **essential questions** throughout the unit and formulate answers and or add new information to the existing answers for that question.

The following **essential questions** are from the third-grade unit on weather:

 UNDERSTANDINGS	 ESSENTIAL QUESTIONS
<b>Students will understand that...</b>	<b>Q1.</b> What is weather?
<b>U1.</b> Weather refers to conditions in the atmosphere on any given day; climate refers to a pattern of weather conditions of a place over many years.	<b>Q2.</b> How does weather affect our lives?
<b>U2.</b> Different regions on Earth have different weather patterns and climate.	<b>Q3.</b> What are the impacts of extreme weather?
<b>U3.</b> Extreme weather conditions can be dangerous to people and the land.	<b>Q4.</b> How do we research and learn about a topic?
<b>U4.</b> People can prepare for extreme weather to remain safe.	

These **essential questions** further develop the **understandings** to be investigated in this unit.

Similarly, in the mathematics example, the **understandings** and **essential questions** were closely linked. Note how the **essential questions** lend themselves to inquiry and are written for students to understand:



## UNDERSTANDINGS

*Students will understand that...*

- U1.** A ratio or a rate expresses the relationship between two quantities. Ratio and rate language is used to describe a relationship between two quantities (including unit rates).
- U2.** A rate is a type of ratio that represents a measure, quantity, or frequency, typically one measured against a different type of measure, quantity, or frequency.
- U3.** Ratio and rate reasoning can be applied to many different types of mathematical and real-life problems (rate and unit rate problems, scaling, unit pricing, statistical analysis, etc.).



## ESSENTIAL QUESTIONS

- Q1.** When is it useful to relate one quantity to another?
- Q2.** How are ratios and rates used in everyday life? How would life be different without ratios and rates?

Both of these curriculum units are available as resources for you to use: <http://www.doe.mass.edu/candi/model/>.

Now, watch as two groups of teachers work through the content and relevant literacy standards and together define **understandings** and **essential questions** for two new units. In this video segment, you'll see secondary teachers focus on westward expansion while an elementary team concentrates on a financial literacy unit.



## WATCH

Watch the next segment of *The Massachusetts Curriculum Development Project: Stage 1 – Desired Results*: <http://www.youtube.com/watch?v=rzpeLQMKLKc> (approximately 3:23–8:07).

On the next page are the **understandings** and **essential questions** developed by the secondary team and centered on the big idea of “Why do people move?”



## TIP

**Essential questions** provide an important anchor for each unit. They should be posted in the classroom throughout the unit. Students can be redirected to the **essential questions** throughout the unit through questions, discussions, and math journal entries.

# ESE’s Model Curriculum Unit on Westward Expansion—High School

## Stage 1 – Desired Results

ESTABLISHED GOALS	G	T
<p><b>G1.USI.26.</b> Describe the causes, course, and consequences of America’s westward expansion and its growing diplomatic assertiveness. Use a map of North America to trace America’s expansion to the Civil War, including the location of the Santa Fe and Oregon Trails (H, E, G).</p> <p>A. The War of 1812</p> <p>B. The purchase of Florida in 1819</p> <p>C. The 1823 Monroe Doctrine</p> <p>D. The Cherokees’ Trail of Tears</p> <p>E. The annexation of Texas in 1845</p> <p>F. The concept of Manifest Destiny and its relationship to westward expansion</p> <p>G. The acquisition of the Oregon Territory in 1846</p> <p>H. The territorial acquisitions resulting from the Mexican War</p> <p>I. The search for gold in California</p> <p>J. The Gadsden Purchase of 1854</p>	<p><b>Transfer</b></p> <p><i>Students will be able to independently use their learning to...</i></p> <p>T1. Analyze conflicts to critically appraise historical claims and decisions.</p> <p>T2. Use their learning to integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question, form an opinion, or solve a problem.</p> <p>T3. Write to inform and explain a topic, concept, or process to a variety of audiences.</p>	<p><b>Meaning</b></p> <p><b>UNDERSTANDINGS</b></p> <p><i>Students will understand that...</i></p> <p>U1. People move for a variety of reasons—for new economic opportunities, greater freedoms, or to escape hardships.</p> <p>U2. Many Americans had naïve ideas about the opportunities and difficulties of moving west.</p> <p>U3. Geography and topography shaped the paths and impacted the journeys of Americans who moved to the West.</p> <p>U4. While the U.S. has added land and territories throughout its history, it has often come with great costs.</p> <p>U5. The expansion of the U.S. has often created and/or resulted in both diplomatic and armed conflict with other peoples and nations.</p> <p>U6. Specific individuals, even outside of elected officials, can have a profound impact on history.</p>
	<p><b>U</b></p>	<p><b>ESSENTIAL QUESTIONS</b></p> <p>Q1. Why do people move?</p> <p>Q2. How do geography and topography affect travel and settlement?</p> <p>Q3. Why did some survive and prosper in the West while others did not?</p> <p>Q4. Who were the winners and who were the losers in the settlement of the West?</p> <p>Q5. What happens when cultures collide?</p> <p>Q6. How have Americans’ perceptions of themselves and their role in world affairs changed over time? (Note to teachers—introduce this overarching question now and students will build to it by the end.)</p>

Developing Stage 1 requires that you express the ***understandings***, ***knowledge***, and ***skills*** in clear, concise statements that address the standards. Although there may not be a one-to-one correspondence between ***understandings*** and ***essential questions***, there should be a strong correlation between the two, with each understanding reflected in at least one ***essential question***. Moreover, ***essential questions*** need to be written in developmentally appropriate language that students will understand, because the ***essential questions*** will guide students' inquiry throughout the unit.

As you formulate your ***essential questions***, it's important to distinguish them from nonessential questions. Think of ***essential questions*** as those that cannot be easily answered, but rather require a process of inquiry to find the answers. In contrast, questions that are nonessential lead to more specific answers or even to a single, correct answer. Wiggins and McTighe (2011) explain that questions are not considered essential if they have a straightforward answer or elicit factual recall. Such questions "are more likely to be asked by a teacher or a textbook than by a curious student or person out in the world" (p. 77). For example, questions like "What are the elements of a story?" or "What three events led to the Civil War?" or "How does the water cycle work?" all have answers that could be clearly defined; in each instance, students would not need to engage in extended inquiry to answer them. In contrast, ***essential questions*** point to big ideas in life or in a discipline. By asking them, you promote inquiry, consideration, and exploration.

The process of determining ***understandings*** and ***essential questions*** is complex and challenging work. But once created, these big ideas and guiding questions will frame your units and steer the rest of your unit design; because they are anchored by the standards, they will likely be revisited in future lessons and even in future grades.

### **Diving Deeper: Creating Essential Questions**

Watch as these teachers explore the ***essential questions*** that will connect to ***understandings*** and help develop students' conceptual knowledge over time.



Watch *Essential Questions*: <http://www.youtube.com/watch?v=qwWoQju88tw>.

## Identifying Knowledge and Skills

In this stage of planning, you also identify what students need to know and be able to do in order to respond to the **essential questions** and to develop their understandings. This requires that you define the **knowledge** and **skills** that students will acquire over the course of your unit. Think of **knowledge** as the collection of facts, concepts, and information that students need to acquire, and **skills** as what students need to be able to do with that information in order to demonstrate their understandings.

In the unit on ratios and rates, you can see that the teachers identified the necessary **knowledge** and **skills** that would enable students to explore ratios and rates, using relevant language and reasoning related to these concepts. You can also see from this example how teachers used the standards to help them identify the **knowledge** and **skills** they would need to teach.

### Diving Deeper: Establishing Goals

Returning to the teams of teachers working on the westward expansion and finance literacy units, watch as they discuss the process of translating standards into a teachable curriculum and incorporating important content and skills.



#### WATCH

Watch *Establishing Goals*:

<http://www.youtube.com/watch?v=TmyTgJS8Y88>.

On the next page are the **understandings**, **essential questions**, **knowledge**, and **skills** developed by the secondary teachers working in the video on the westward expansion unit.

# ESE's Model Curriculum Unit on Westward Expansion—High School

## Stage 1 – Desired Results

ESTABLISHED GOALS		
<p><b>G</b></p> <p>G1. USI.26 Describe the causes, course, and consequences of America's westward expansion and its growing diplomatic assertiveness. Use a map of North America to trace America's expansion to the Civil War, including the location of the Santa Fe and Oregon Trails (H, E, G).</p> <p>A. the War of 1812</p> <p>B. the purchase of Florida in 1819</p> <p>C. the 1823 Monroe Doctrine</p> <p>D. the Cherokees' Trail of Tears</p> <p>E. the annexation of Texas in 1845</p> <p>F. the concept of Manifest Destiny and its relationship to westward expansion</p> <p>G. the acquisition of the Oregon Territory in 1846</p> <p>H. the territorial acquisitions resulting from the Mexican War</p> <p>I. the search for gold in California</p> <p>J. the Gadsden Purchase of 1854</p>	<p><b>G</b></p> <p><i>Transfer</i></p> <p><b>Students will be able to independently use their learning to...</b></p> <p>T1. Analyze conflicts to critically appraise historical claims and decisions.</p> <p>T2. Use their learning to integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question, form an opinion, or to solve a problem.</p> <p>T3. Write to inform and explain a topic, concept, or process to a variety of audiences.</p> <p><i>Meaning</i></p> <p><b>UNDERSTANDINGS</b></p> <p><b>Students will understand that...</b></p> <p>U1. People move for a variety of reasons—for new economic opportunities, greater freedoms, or to escape hardships.</p> <p>U2. Many Americans had naive ideas about the opportunities and difficulties of moving west.</p> <p>U3. Geography and topography shaped the paths and impacted the journeys of Americans who moved to the West.</p> <p>U4. While the U.S. has added land and territories throughout its history, it has often come with great costs.</p> <p>U5. The expansion of the U.S. has often created and/or resulted in both diplomatic and armed conflict with other peoples and nations.</p> <p>U6. Specific individuals, even outside of elected officials, can have a profound impact on history.</p> <p><i>Acquisition</i></p> <p><b>Students will know...</b></p> <p>K1. The political, economic, and social factors that motivated people to move to the West.</p> <p>K2. The key geographical features of the American landscape that shaped the routes to and the settlements of the West.</p> <p>K3. Several major topics/events connected to American westward expansion, including (but not limited to) the acquisition of Florida, the Monroe Doctrine, Manifest Destiny, the annexation of Texas, the acquisition of the Oregon territory, the Mexican War, and the California Gold Rush.</p> <p>K4. The major conflicts that were caused by/resulted from American expansion into new territories in the West.</p> <p>K5. The government policies and actions that encouraged Western settlement and brought the U.S. into conflict with other nations.</p>	<p><b>T</b></p> <p><b>ESSENTIAL QUESTIONS</b></p> <p>Q1. Why do people move?</p> <p>Q2. How do geography and topography affect travel and settlement?</p> <p>Q3. Why did some survive and prosper in the West while others did not?</p> <p>Q4. Who were the winners and who were the losers in the settlement of the West?</p> <p>Q5. What happens when cultures collide?</p> <p>Q6. How have Americans' perceptions of themselves and their role in world affairs changed over time? (Note to teachers—Introduce this overarching question now and students will build to it by the end.)</p>
		<p><b>S</b></p> <p><b>Students will be skilled at...</b></p> <p>S1. Recognizing, defining, and using content specific vocabulary related to westward expansion in context.</p> <p>S2. Identifying, examining, and interpreting primary and secondary source documents to increase understanding of events and life in U.S. history.</p> <p>S3. Making connections between past and present.</p> <p>S4. Reviewing information for accuracy, separating fact from opinion.</p> <p>S5. Identifying a problem and recommending solutions.</p> <p>S6. Selecting and defending positions in writing, discussion, and debate.</p> <p>S7. Reading and interpreting maps.</p> <p>S8. Reflecting and internalizing information, metacognition.</p>

Overall, your planning during Stage 1 will help you clarify what it means for students to acquire understandings and will help you determine the evidence you'll collect in Stage 2.



## TIP

Teachers who have participated in this process report that it is helpful to work through the design process with colleagues. When you design your units together, the process is easier, and you build a stronger curriculum. In the end, this process gives you and your colleagues opportunities to identify the important ideas and shape the instruction that will meet the needs of YOUR students.

Some teachers find it helpful to create “vertical” teams of teachers to look at **understandings** across grade levels. Aligning **understandings** in this way can create opportunities to make curriculum more coherent from one grade to the next and help students develop important conceptual knowledge. For example, in the math unit on ratios and rates, important concepts and language are introduced that form the basis for proportions and proportional reasoning in grade 7 and connecting proportions, lines, and linear equations in grade 8.

## CHAPTER 3

### Stage 2 – Evidence

*Then you need evidence of the learners' ability to...*

Once you have identified the **understandings**, **essential questions**, **knowledge**, and **skills** for your unit, the next step is to determine what evidence will capture students' acquired knowledge, skills, and progress toward attainment of the standards. The Curriculum Embedded Performance Assessment (CEPA) consists of authentic performance task(s) that provide students with opportunities to apply new learning and to demonstrate what they know and are able to do *independently*. Through their performance on the CEPA, students demonstrate deepened understanding of the big ideas identified at the start of the unit.

In the next video segment, watch as teacher-teams define the kinds of authentic tasks that provide evidence of students' knowledge and skills as well as their ability to apply their learning in new ways.



Watch the next segment of *The Massachusetts Curriculum Development Project: Stage 2 – Evidence*: <http://www.youtube.com/watch?v=rzpeLQMKLKc>.

In the next video example on financial literacy, the team designed a CEPA in which students chose a character from one of the texts they read and described the choices he or she made about money and the outcomes of those decisions. Students then critiqued characters' financial choices and made recommendations to the character about alternative choices. In order to complete the CEPA, students had to make connections across texts and individual lessons and then draw conclusions that would help them perform the required tasks. Here is the CEPA they created:

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*Curriculum-Embedded Performance Assessments (CEPAs) are “more than just a test or quiz. We’re asking students to do something authentic with what they know.”*

– Mary Colombo  
*Curriculum Design Facilitator  
Massachusetts Association for  
Supervision and Curriculum  
Development*  
-----

## CEPA STUDENT INSTRUCTIONS

You have learned about what can be done with money and making responsible financial choices through several informational texts and a novel as well as short texts about kids who were faced with decisions about money.

Choose a character from the book you read with your group. Describe one or more choices he or she made regarding money by giving direct evidence from the novel you read. Using your notes and the informational texts we read, think about what you learned about earning, saving, spending, borrowing, banking, growing, and sharing money. Include what the consequences of the choices were. Were the choices financially responsible? Advice must rely on evidence from the informational texts, which should include the title of the text, author, and page number.

Write a report to the character as if you were his or her financial advisor, explaining whether their choices were or were not financially responsible. Use evidence from the novel, picture books, and informational texts to explain why the choice was or wasn't a wise one; then offer your opinion (or advice) about a better choice for using money in the future. Distinguish the differences between needs and wants in the examples you select.

**Goal:** Your task is to evaluate (give an opinion about) your character's financial responsibility and offer advice for the future.

**Role:** Financial advisor

**Audience:** The client is the character in the novel you read.

**Situation:** Your client has made financial decisions and it is your job to analyze and report on the choices made based on what you've learned about personal finances. The character needs your advice about how to be more financially responsible in the future.

**Product:** Your report to your client that includes evidence of their choices and an explanation of why each choice was or wasn't financially responsible. Then offer an alternative plan for the future. All advice must rely on evidence from the informational text, which should be cited with the title of the text, author, and page number.

### **Criteria for Success:**

Your financial plan must include:

- Specific references to earning, spending, growing, and sharing money
- Information or evidence from various sources (fiction and informational) that include correct citations
- Distinguish between your character's needs and wants
- Evidence of your character's actions and their consequences in making financial choices
- Your advice for more responsible choices in using money, also citing evidence

GRASPS assessment format from Wiggins, Grant and Jay McTighe. *Understanding by Design Professional Development Workbook*. Alexandria, VA: Association for Supervision and Curriculum Development, 2004.

## Diving Deeper: Curriculum Embedded Performance Assessments

In this next video, notice how the teachers tied their *essential questions, knowledge*, and *skills* to the tasks they derived for this CEPA.



Watch *Curriculum Embedded Performance Assessment*: [http://www.youtube.com/watch?v=DD7W\\_wLKix0](http://www.youtube.com/watch?v=DD7W_wLKix0).

## Rubrics: Making Students' Performance Criteria Clear

Rubrics define the qualities of performance that you'll use to evaluate students' CEPAs. Through your rubric, you make your expectations clear to students, and they know from the start how their performance will be measured and scored.

On the next page is the rubric that accompanied the CEPA for the financial literacy unit.

## CEPA RUBRIC: FINANCIAL LITERACY

	4 Exceeds Expectations	3 Meets Expectations	2 Needs Improvement	1 Emerging
<b>The argument</b> about the characters' use of money	Solid argument that demonstrates a deep understanding of the character's motives and decisions, alternatives and consequences	Argument about the character's use of money acknowledges motives and provides alternatives and consequences	Argument contains some reasons with some evidence and demonstrates some understanding	Does not make an argument using evidences or consider alternatives or consequences
<b>The conclusion</b> about the character's use of money includes evidence concerning earning, saving, spending, saving and/or sharing money.	A nuanced understanding of character's financial responsibility, synthesizing evidence from several sources. Conclusions are logical, and distinguish between needs and wants.	Includes whether the character's use of money was responsible using evidence from more than one text. Conclusions are logical; and distinguish between a need and a want.	Some understanding of the character's responsibility in using money, with some evidence; may distinguish between needs and wants, but not clearly.	Does not reach an understanding or a conclusion about character's use of money or reaches a conclusion with inadequate evidence.
<b>Format of textual evidence and citations</b>	Cites evidence in correct format from the informational texts and the novel read in class.	Cites evidence from the informational texts read in class in the correct format	Cites some evidence correctly, which may or may not be in the correct format	Evidence and/or citations are incomplete or absent
<b>Vocabulary</b> relevant to financial literacy	Uses academic and relevant domain-specific words and phrases correctly and creatively	Uses academic and domain-specific words and phrases relevant to financial literacy correctly	Uses a few relevant academic and domain-specific words and phrases correctly	Uses few or no academic and domain-specific words and phrases
<b>Standard English conventions</b> (sentence structure, grammar and usage, and mechanics)	Demonstrates control of standard English conventions	Errors do not interfere with communication	Errors somewhat interfere with communication of ideas	Little control of sentence structure, grammar, mechanics

## Diving Deeper: CEPA Rubrics

As you watch this video, think about the role that rubrics can play in your curriculum units. How might they reflect the CEPAs and clearly describe for students the performance criteria for which you'll look?



### WATCH

Watch *Using Rubrics with Students*:

<http://www.youtube.com/watch?v=YOy60WLYyGk>.

## Thinking about CEPAs as Learning Opportunities

As an important component of the UbD process, CEPAs not only measure but also expand opportunities for students to demonstrate their understandings. As students work through CEPAs, they independently apply their understandings and knowledge and skills to new and authentic tasks.



### TIP

Some teachers have found it helpful to share their instructional rubrics with a colleague for a fresh perspective before distributing them to students. Are your criteria clear? Do the descriptions capture all the important **knowledge** and **skills** that will form the basis for your evaluation of students' performance?

To make sure that the CEPA rubric is connected to the task, look at the CEPA criteria and the rubric criteria. A common pitfall is that the criteria listed in the CEPA are different from the criteria listed in the rubrics.

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“In the same way that the play in theater focuses practice for the opening night, and the game in athletics focuses practice, having clarity about the authentic performance task, the CEPAs, helps to focus teaching and learning.”  
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– Jay McTighe

## CHAPTER 4

### Stage 3 – The Learning Plan and Lesson Plans

*Then the learning events need to...*

Stage 3 brings Stages 1 and 2 to life. Here, you develop the learning plan, an outline or roadmap of the instructional and learning experiences for students. What route will you take? Where will you stop to see how far you've come? Since you already know your destination and have identified the big ideas and understandings that you want students to develop, this is the stage where you plan the route that will take them there. In Stage 3, you create the sequence of learning events that will develop students' knowledge and skills, prepare them to participate in the CEPA, and lead them toward meeting the standards.

In the next video chapter, watch as teachers work through Stage 3 and identify the specific instructional sequence that will lead students toward attainment of the Standards.

#### WATCH

Watch the next segment of *The Massachusetts Curriculum Development Project: Stage 3 – Learning Plan*: <http://www.youtube.com/watch?v=rzpeLQMKLKc> (approximately 10:34–12:26).

As you develop your learning plan, it's important to think about how your instructional tasks align with the other two stages. This two-part test, suggested by Grant Wiggins and Jay McTighe (2011, p. 53), can help you think this through:

#### **Part 1**

- Could students do the proposed assessment(s) well but not really have mastered or understood the standard in question?
- Could students do poorly on the specific assessment(s) but have attained the standard in question?

#### **Part 2**

- Could students do all the learning events in Stage 3 but not really be ready to transfer their learning as required in Stage 2?
- Could students fail to do all the proposed learning events in Stage 3 but still be ready to handle tasks in Stage 2?

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“You’re building the **knowledge and skill** very purposefully to meet the end goal, which is to demonstrate it through the CEPA.”

– Mary Colombo  
Curriculum Facilitator  
Massachusetts Association for  
Supervision and Curriculum  
Development  
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## Diving Deeper: Lesson Planning

While lesson plans are not part of the UbD template, ESE included detailed lesson plans to provide support/modeling for the classroom level of instruction. Your lesson plans break down the desired results into adjustable chunks for day-to-day teaching. Using the learning plan (Stage 3) as an outline, you'll develop lesson plans, and select instructional strategies, high-quality materials, and resources to support your lesson plans.



Watch *Lesson Plans: Instructional Strategies*:

<http://www.youtube.com/watch?v=Wn3DtNEh49E>.

## Lesson Planning: A Closer Look

A lesson plan includes your objectives, language objectives, and targeted academic language for the lesson as well as the important ideas you'll teach and the learning events, grouping strategies, resources, and materials you'll use. As you think about your lesson, it's important to anticipate areas that might cause students to become confused, including new, conceptually related vocabulary that needs to be pre-taught or misconceptions about the topic that should be addressed. In addition, it's important to consider the tools and technologies that will support the lesson as well as the students' ability to engage productively with the content, e.g., graphic organizers, manipulatives, or electronic tablets.

But there's another, equally important component to lesson planning that extends beyond lesson objectives and teaching tools to include a well-planned, overall structure for the lesson. Opening your lesson by building connections to prior learning for students not only activates prior knowledge but also connects the current lesson to previously learned content and important ideas from prior lessons. Strong openings set the stage for new content and help students link the current lesson to earlier learning. Similarly, a strong summation at the end of your lesson reminds students of the important learning for the day and readies them for what's to come. A good closing also builds instructional coherence and helps students tie new content to existing schema. Finally, increased opportunities for students to talk about content at key junctures throughout the lesson strengthen the learning experience. These language-based interactions also develop students' oral language skills, encourage authentic use of relevant vocabulary, and build

academic language competency. Taken together, these elements of classroom talk serve your instructional purposes and create productive contexts for learning.

## Planning for Student Variability

The backward design curriculum development process asks you to think deeply about the learning opportunities that you create for students. As you consider your students and design the learning events that build toward their independent participation in the CEPA, you take into account the range of needs that are present among the students in your classroom. How can you layer your instruction and build a succession of learning events and lessons that will help students develop necessary knowledge and skills? What are the multiple means of representation, action and expression, and engagement that you can provide for students to develop and express their understanding? How will you meet the range of learners in your classroom, including those who need additional support, and those who need additional challenges?

As you undertake this important work, you must also take special care to provide sufficient support so that all students can successfully meet the expectations set out in the standards. This support does not suggest a “watered down” version of the curriculum but rather sufficient instructional mediation to make grade-level, core curriculum accessible for all learners.

Creating appropriate supports is an essential part of lesson planning. Instructional variety that is systematically built into each lesson has a cumulative and positive effect on student learning. This variety is evident in the extreme weather unit where multiple resources are brought together and integrated. This includes texts, technology, and purposeful “Word Walls.” In addition to core texts, written at a variety of levels, lessons are structured to include multiple opportunities for students to interact with these texts to build their conceptual understanding and support vocabulary development. Flexibility in student grouping creates many opportunities for students to interact productively with the content and with each other. These grouping strategies include:

- Think/Pair/Share
- Small-group work
- Guided small-group work with assistance
- Interactive read-alouds
- Whole-class instruction and discussion

These individual instructional components together create strong supports and highly engaging contexts to promote students' learning.

## Selecting Materials and Resources

These decisions about materials and resources are driven by the **understandings, essential questions, knowledge, and skills** that you've already identified. Materials and resources may take a variety of forms: primary sources, media, technology, learning tools (e.g., manipulatives, calculators, or graphic organizers), and a host of print and graphic texts that help you build your instructional events. When you incorporate variety, you strengthen the learning experience for all students by opening more avenues through which students may access content. Appendix B of the Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects ([http://www.corestandards.org/assets/Appendix\\_B.pdf](http://www.corestandards.org/assets/Appendix_B.pdf)) is a good resource to help you select informational texts and resources in order to create coherent curriculum units that link science, social studies, the arts, and comprehensive health with literacy.

### Diving Deeper: Selecting Materials and Resources

In this video, teachers describe how they made decisions about the materials and resources they used to build their learning events. They also explain how the elements they identified during in Stage 3 contributed to their decisions about appropriate resources and materials.



Watch *How to Select High-Quality Materials*:  
<http://www.youtube.com/watch?v=xEySJIGyvNU>.

## Ensuring Alignment within the Unit

Defining the **understandings, essential questions, knowledge, and skills**, and the CEPA drive the instructional and learning events in Stage 3. This design process is iterative. Moving through each stage will inevitably require going back and refining elements from previous stages; once all the stages have been completed, a final trip through each stage will be important.

Next, watch as teachers review their units and examine alignment across lessons based in the **understandings, essential questions, and performance tasks** defined in earlier stages. In the video, you'll see the teacher-teams review and receive feedback about

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"The really exciting thing about UbD is that now, the resources don't drive the learning. It's the other way around. The textbook isn't at the forefront of this. You're looking at the **understandings and essential questions**, and then the resources help us drive that."  
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– Judi Allen

*Director of History and Social Studies Malden Public Schools*

their units with Understanding by Design author Jay McTighe. As you develop your units, your colleagues will serve as resources for review and feedback.



Watch the final segment of *The Massachusetts Curriculum Development Project: Quality Review*: <http://www.youtube.com/watch?v=rzpeLQMkLkc> (approximately 12:26–16:59).

## Evaluating the Quality of the Unit

Once a unit is developed, you have to determine if it is of adequate quality to meet your instructional goals and support students' attainment of the standards. To measure and evaluate the quality of your units, you can use 1) the Tri-State Quality Review Rubrics for ELA and Mathematics and 2) the ESE Quality Review Rubrics for History/Social Science and Science and Technology/Engineering: <http://www.doe.mass.edu/candi/model/rubrics/>.

## The Quality Review Rubric

Through a collaborative, multistate initiative with New York and Rhode Island, rubrics in ELA and mathematics were developed to incorporate key components of the new state standards. These rubrics for ELA and mathematics are also being used in other states under the name of EQuIP (Educators Evaluating the Quality of Instructional Products). These rubrics are available to help you analyze the quality and alignment of your unit with the standards.

For example, in mathematics, the quality review rubric distinguishes among several important categories, including focus on the concepts, foundational knowledge, and rigor as well as the degree of curricular coherence of the content. The rubric also highlights the importance of building connections across domains, clusters, and other disciplines, with ideas progressing logically and layering on each other. In addition, the rubric defines components of application, conceptual understanding, and procedural skill and fluency and describes the particular elements that can guide your planning and assist you in evaluating your own lessons and units.

Similar to the Tri-State and EQuIP Rubrics, ESE has developed rubrics for Massachusetts educators in history and social science as well as in science and technology/engineering. A comprehensive rubric was developed for each content area to help educators determine the quality, rigor, and alignment of lessons and units to the Massachusetts Curriculum Frameworks.

## Diving Deeper: Evaluating the Unit

This video describes the four elements of the Tri-State Quality Review Rubrics—alignment to the CCSS, key shifts in the CCSS, assessment, and instructional supports—and discusses the importance of assessing units with colleagues as part of your development process.



*Evaluating the Unit:* <http://www.youtube.com/watch?v=Ao-yIMXmt80>.

All of the rubrics are available on the ESE website:  
<http://www.doe.mass.edu/candi/model/rubrics/>.



An important step after drafting your lessons and units is to review them from start to finish to make sure that the elements are tightly aligned with each other (e.g., **understandings**, **essential questions**, **knowledge**, **skills**, CEPA, and lessons). Keep in mind that this design process is iterative, and as you review each stage, you'll probably make some revisions to your plan. Wiggins and McTighe even suggest drawing lines from one stage to the next to make sure that the parts connect and that none are “left hanging” (p. 53). Talking through this process with colleagues helps.

Setting up reviews with other members of your team or curriculum coordinators provides a useful opportunity to “walk through” your unit one more time. Explaining your unit, and the final **understandings** you want students to develop, gives you the chance to see your unit as a whole and with a fresh perspective. This step also helps you gain valuable feedback and ideas from your colleagues.

## CHAPTER 5

### Putting It All Together

Now that we have visited each individual part of the planning process, let's take a moment to reflect on the whole process.

#### WATCH

You may want to watch *The Massachusetts Curriculum Development Project* video—<http://www.youtube.com/watch?v=rzpeLQMKLKc>—in its entirety, or select the sections that you would like to review.

The Massachusetts Department of Elementary and Secondary Education (ESE) also has many resources available for you and your colleagues to explore: <http://www.doe.mass.edu/candi/model/>.

Today's world surrounds us with a constant flow of information, as each day brings new ideas, events, and technologies that compete for our attention and require sorting out. To make sense of this flow, we must analyze and filter information in order to determine its relevance and decide when to act. This is the world for which we are preparing our students. To thrive, our students will need to think flexibly, analyze information quickly, communicate competently, and look for solutions to complex problems set in the context of a global community.

By using the curriculum frameworks and Understanding by Design model to create curriculum units, we are building a path that will help Massachusetts students prepare for this information-centered world. While integrating the 2011 Massachusetts Curriculum Frameworks, that incorporate the Common Core State Standards, and the other Massachusetts Curriculum Frameworks into our classrooms presents challenges, at the same time, this offers unprecedented opportunities for strengthening students' learning. Grounding our instruction in the standards and the Understanding by Design curriculum design process shifts the instructional focus from content coverage to a deeper development of students' understandings that will enable them to interact more productively with the constant flow of information around them. Through this process, we also help our students link skills to content and gain the conceptual knowledge that will help them make informed decisions and be prepared for the college and careers that lie ahead.

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“We’ll see students being able to demonstrate not only that they know information, which is important...but that they can **do** something with it. That’s where the rubber hits the road. And that’s what we’re asking these teachers to think about right now—[if the end result is] students sharing their knowledge and their skills with us in meaningful ways, we will have transformed what happens in schools.”

— Julia Phelps  
Associate Commissioner  
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Brockton	North Shore Regional Vocational Technical School
Cambridge	Old Rochester Regional School District
Central Berkshire Regional School District	Pittsfield
Chelsea	Reading
Chicopee	Revere
Clinton	Richmond
Dennis-Yarmouth Regional School District	Somerville
Dighton-Rehoboth Regional School District	South Shore Charter Public School
Dracut	Southbridge
East Longmeadow	Southeastern Regional Vocational Technical School
Essex Agricultural Technical School	Springfield
Everett	Triton Regional School District
Fall River	Upper Cape Cod Regional Vocational Technical School
Falmouth	Wakefield
Fitchburg	Waltham
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Hampshire Regional School District	Wareham
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