Using the CCRS Resource Alignment Tools for Math

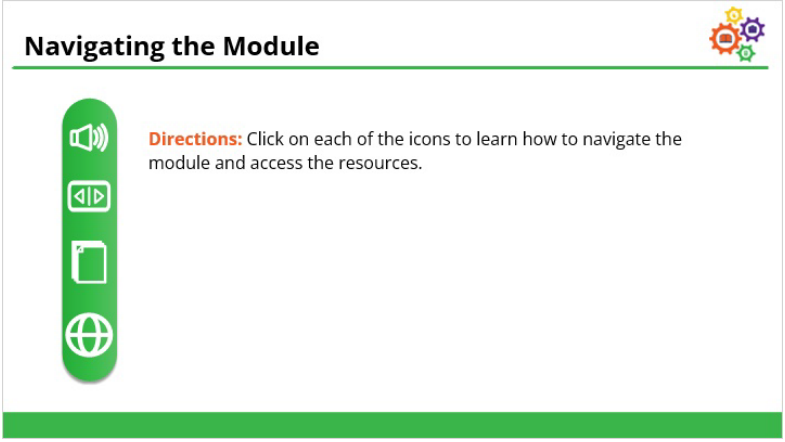
Introduction of Module: Using the CCRS Resource Alignment Tools for Math

Notes:

Welcome to the Using the CCRS Resource Alignment Tools for Math module.

Click on the Next button to begin.

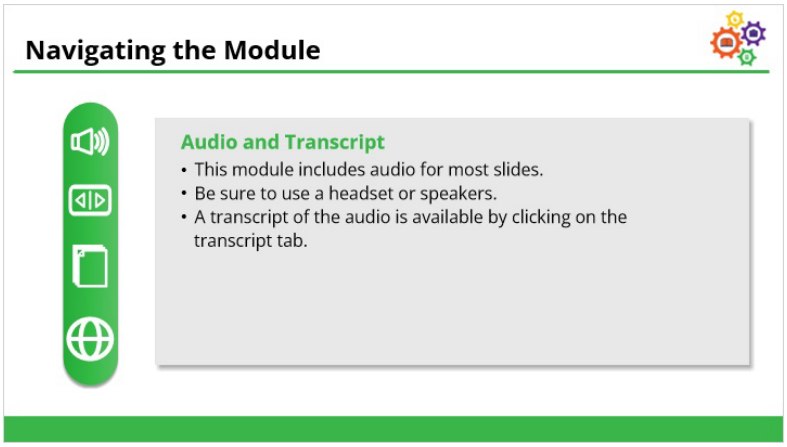
Navigation Tips



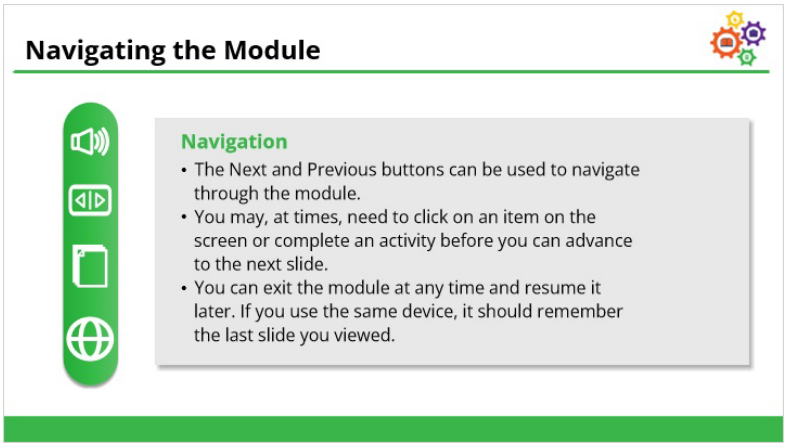
Notes:

If this is your first time participating in an online module, please click on each of the icons to learn how to navigate and access resources. When you are ready, please click Next to continue.

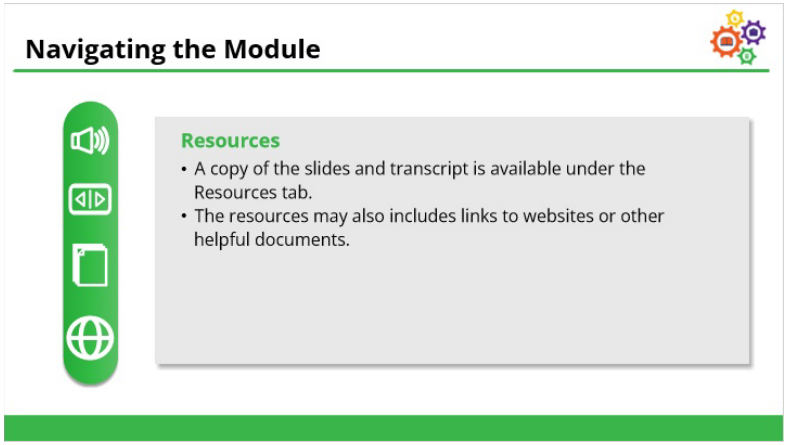
Audio



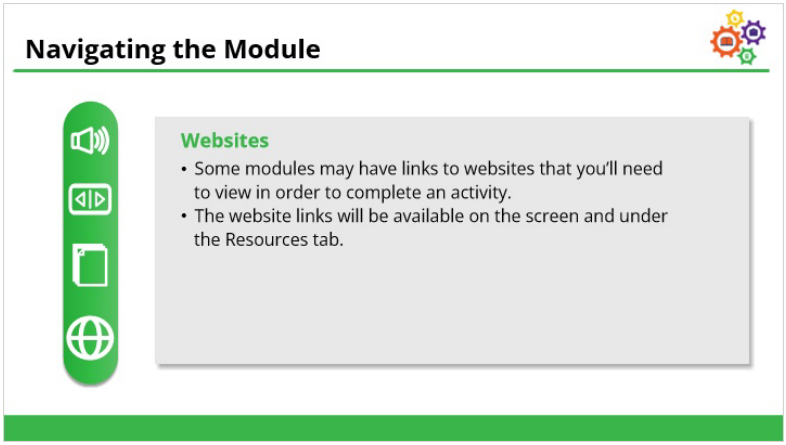
Navigation



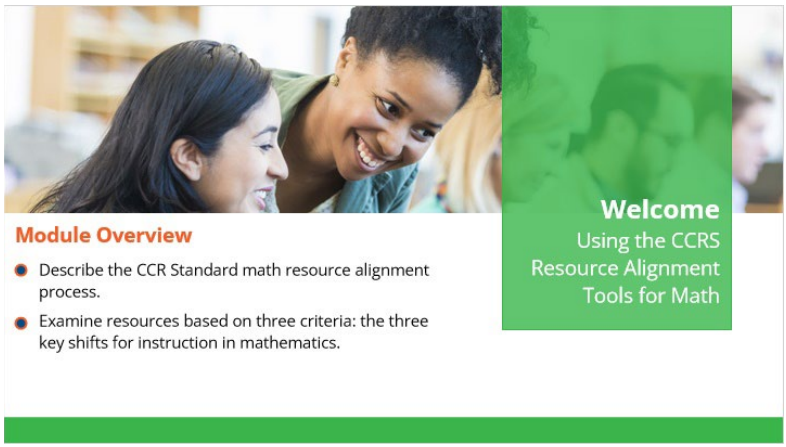
Resources



Web



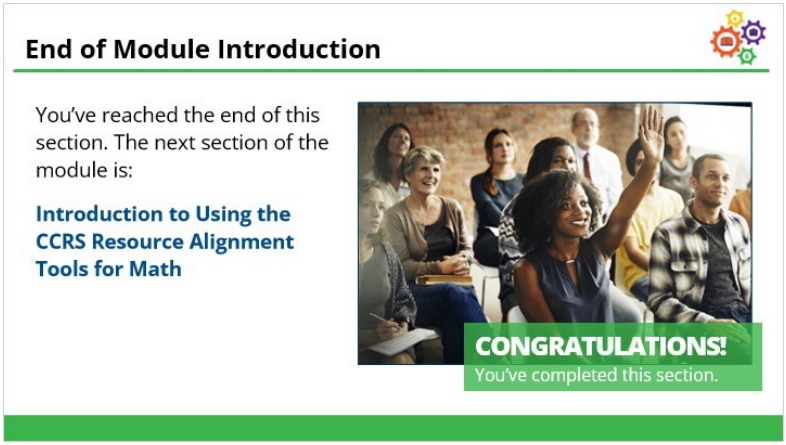
Module Overview



Notes:

This module will describe the process for analyzing the alignment of a curriculum resource to the College and Career Readiness Standards for mathematics and help you determine if a resource you are using in your classroom is aligned to the CCRS. We will be examining the resource based on three key criteria: the three key shifts for instruction in mathematics. You'll learn more about the key shifts in the next section of the module.

End of Module Introduction



Notes:

Congratulations, you've reached the end of this section. Please advance to the next section to continue the module.

Introduction

Introduction to Using the CCRS Resource Alignment Tools for Math

Notes:

In this section, we will prepare to use the CCRS Resource Alignment Tools for Math. We'll discuss the purpose of resource alignment, define the three key shifts for math instruction, identify the materials needed to complete the resource alignment process, and review the Resource Alignment Tool (Math Tool 1).

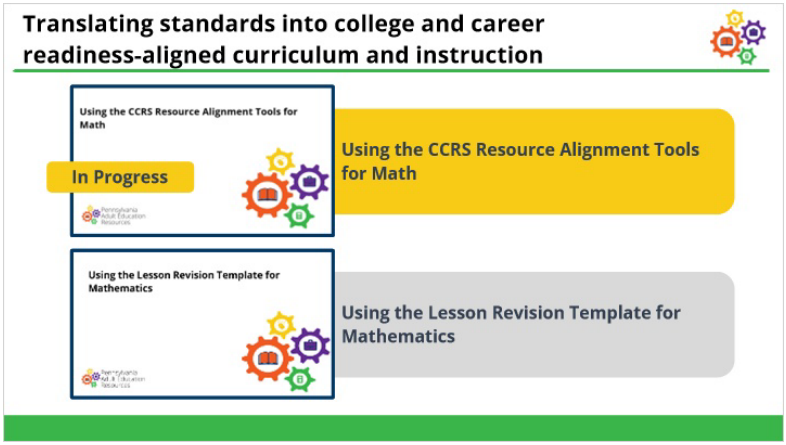
Why are we doing this work?

Notes:

An important question to ask is, why are we doing this work?
This module is designed to help you better understand the intent of the CCR

Standards and to help adult education instructors to adapt, create, and shape curricula that will teach the content of the CCR Standards to students.
This work is important because it will help you focus on closing the gap between the CCR Standards and classroom instruction. It will also help you focus on closing the gap between what students are learning and what they need to learn to meet college and career demands. As you move through this structured process of curriculum analysis you will build your capacity to evaluate teaching materials for alignment to standards and you will deepen your understanding of CCR Standards and the key shifts.

Overview of Recommended Modules

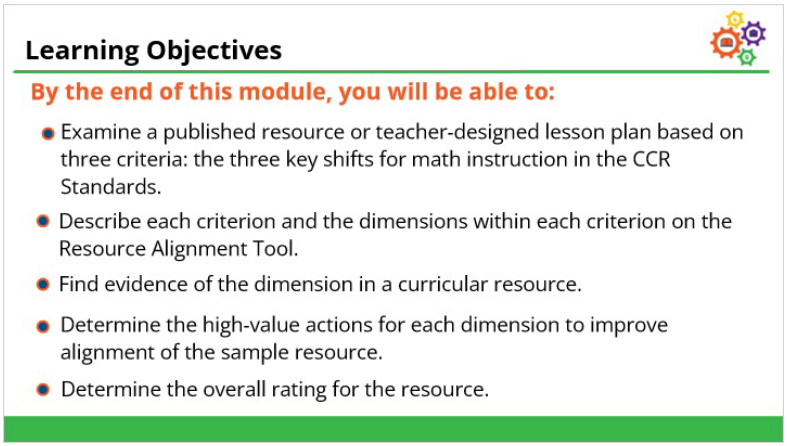


Notes:

By the end of this module, you will know how to use the Resource Alignment Tool for Math to identify strengths and areas of improvement needed for alignment to the CCRS. After working through this module, you may want to complete the Using the Lesson Revision Template for Mathematics module to learn about the process for revising and improving math lessons and resources.

After completing these two modules, you will become more familiar with the demands of the CCR Standards and will be more prepared to provide instruction to the level-specific demands of the standards.

Learning Objectives

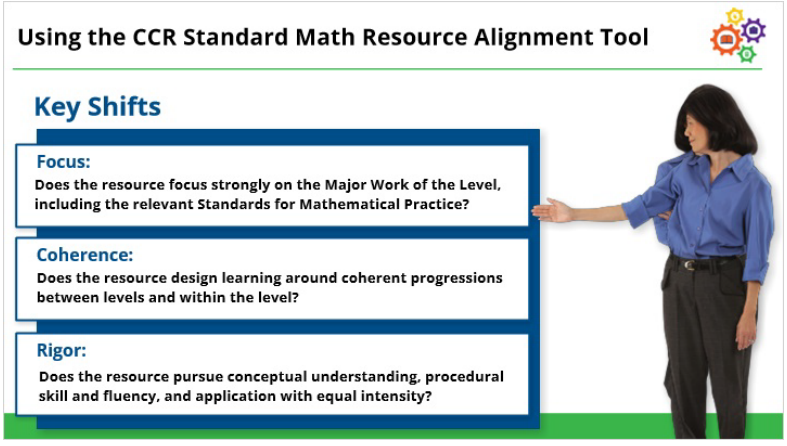


Notes:

By the end of this module, you will be able to:

- Examine a published resource or teacher-designed lesson plan based on three criteria: the three keys shifts for math instruction in the CCR Standards.
- Describe each criterion and the dimensions within each criterion on the Resource Alignment Tool for Math.
- Find evidence of the dimension in a curricular resource.
- Determine the high-value actions for each dimension to improve alignment of the sample resource.
- Determine the overall rating for the resource.

Key Shifts



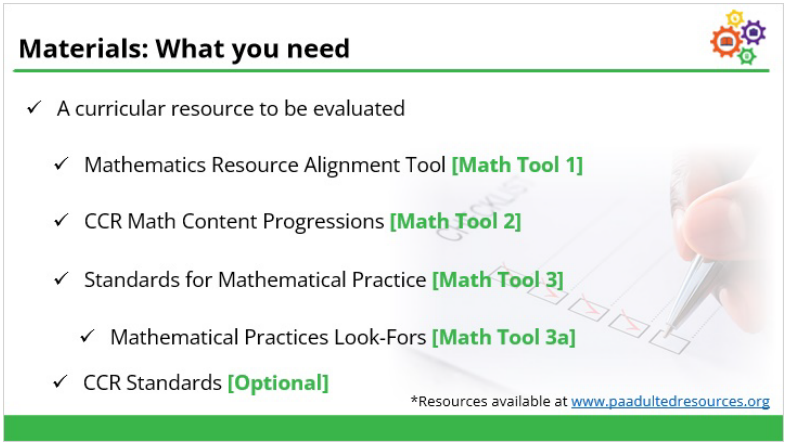
Notes:

The three key shifts for math instruction are Focus, Coherence, and Rigor.
When analyzing Focus, you will need to determine whether the resource focuses strongly on the Major Work of the Level or supporting standards. The supporting standards are identified by italics in the CCR Standards for Adult Education. You will also need to determine whether or not the resource addresses the Standards for Mathematical Practice.

Coherence refers to whether the resource designs learning around coherent progressions between or within levels. To better illustrate this criterion, you will need to ask yourself whether or not the instructional content is connected to prior and future learning and whether the sequence of learning is appropriate for your level of instruction.

When discussing rigor, you will need to determine whether the resource addresses conceptual understanding, procedural skill and fluency, and application with equal intensity.

Materials: What you need



Notes:

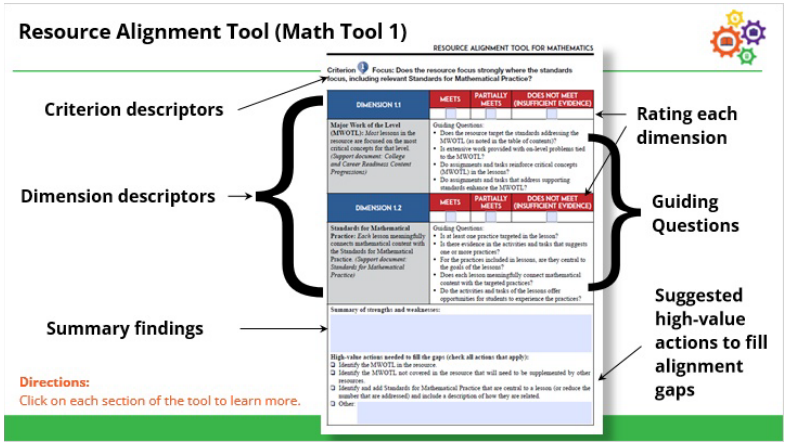
Before we begin, you will need to select a curricular resource to analyze. A curricular resource can be a published resource that you've been using in your classroom. A curricular resource could also be teacher-designed units and lessons. The process of analyzing curricular resources is the same for both published and teacher-designed materials.

For your first attempt at analyzing a resource, we suggest using a published

resource you are familiar with or that is widely used at your program.

Once you have selected a resource, you will need copies of the Math Resource Alignment Tool, CCR Content Progressions, Standards for Mathematical Practice, and Mathematical Practice Look-Fors. Use of the CCR Standards for Adult Education is optional. These tools are available on the PA Adult Education Resources website located at www.paadultedresources.org and the Resources tab of this module.

Resource Alignment Tool (Math Tool 1)



Notes:

This is the Resource Alignment Tool (Math Tool 1). You will be using this tool to rate the resource against the three criteria. This slide illustrates the content of Criterion 1 – Focus. The process for aligning the other criteria and their dimensions are similar to the one indicated here.

Click on the labels or sections of the form to review each section in greater detail.

The **Criterion descriptor** at the top – in this case – Focus. We will be analyzing the curricular resource based on the criterion of Focus.

On the left-hand side you will see that there are two **Dimension descriptors**. These descriptors provide a concrete description of what you will be looking for in the curricular resource.

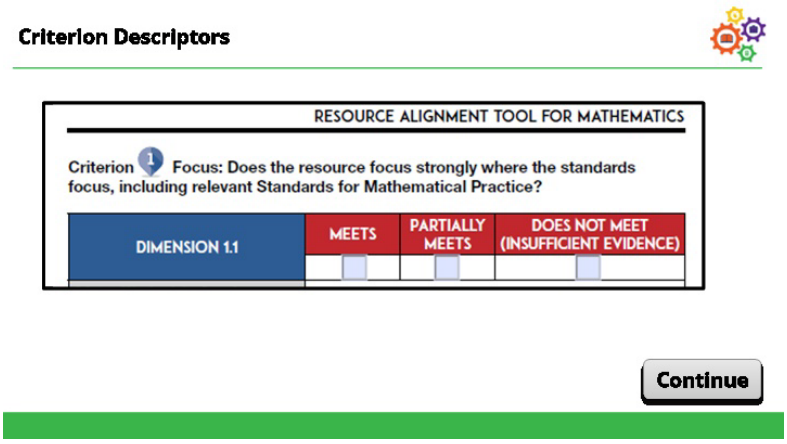
To the right of each Dimension descriptor, you'll see a place to **rate each dimension**. You will be asked to rate your curricular resource on its alignment to the criterion Focus. If you are using the PDF version of the document, save a copy with the title of the resource in its name. Then, once you decide on the rating for a dimension, you can simply click in the box under the appropriate rating.

Below each rating bar, you will see a list of **guiding questions**. These are some questions you will want to answer as you decide whether a resource meets the criteria for that dimension.

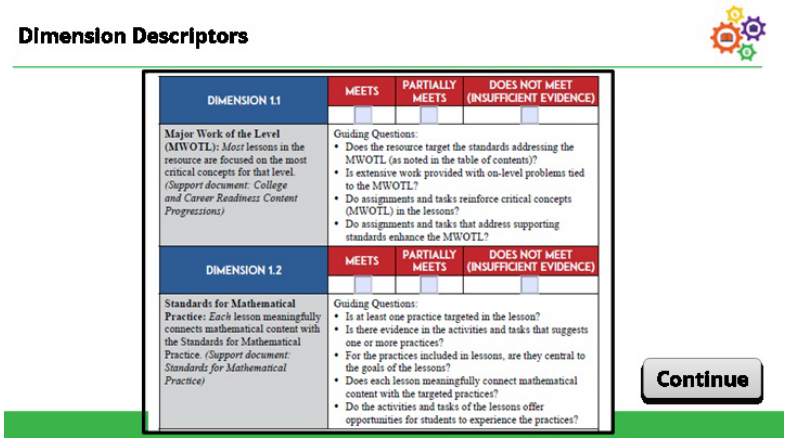
In the bottom half of the page, you'll find a space to **summarize** the evidence you are using to justify your ratings.

At the bottom of the form you will see there is a place to list the **high-value actions** you would take to revise this resource for tighter alignment to the CCR Standards. These high-value actions are things you might suggest to the publisher – or do yourself – to make the resource better aligned to the key shifts. While you will select the options that make sense based on your analysis, you will not be revising the resource during this module, just analyzing it.

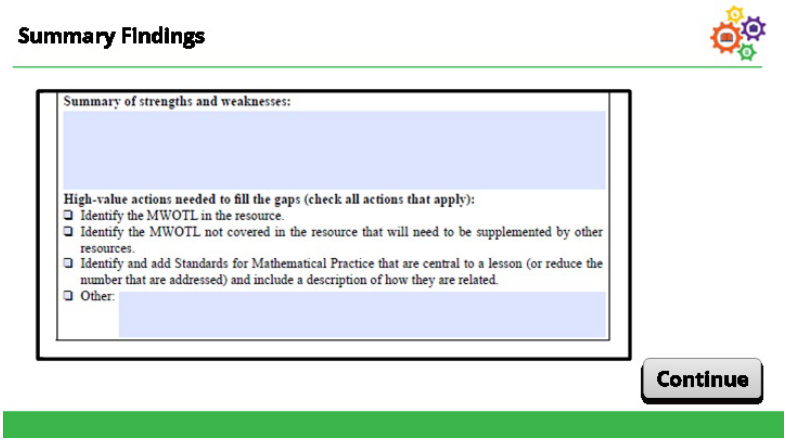
Criterion-Descriptors



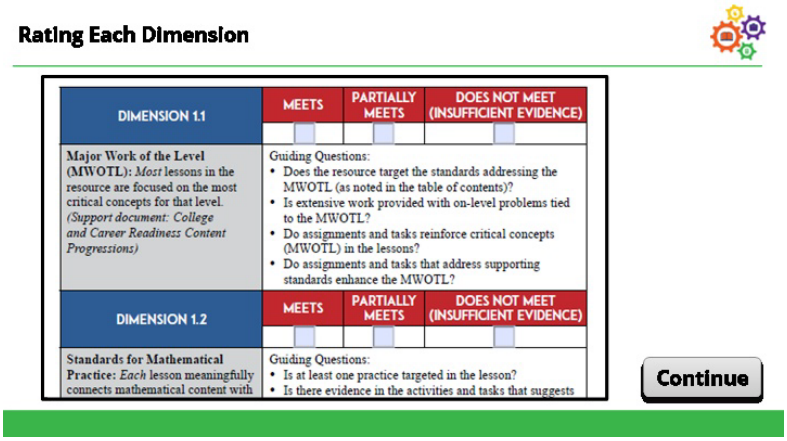
Dimension-Descriptors



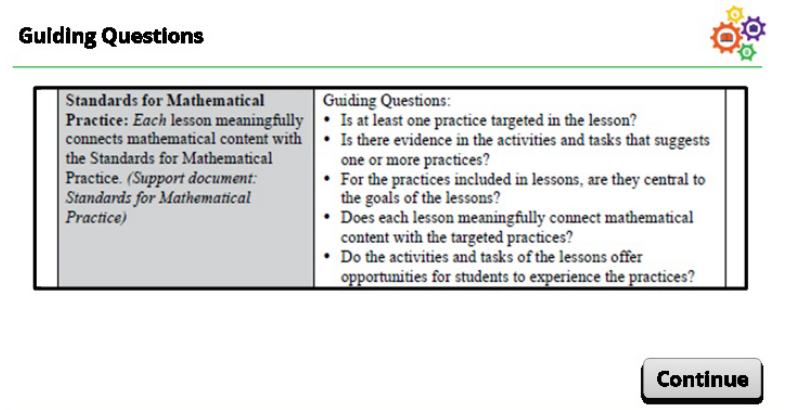
Summary-Findings



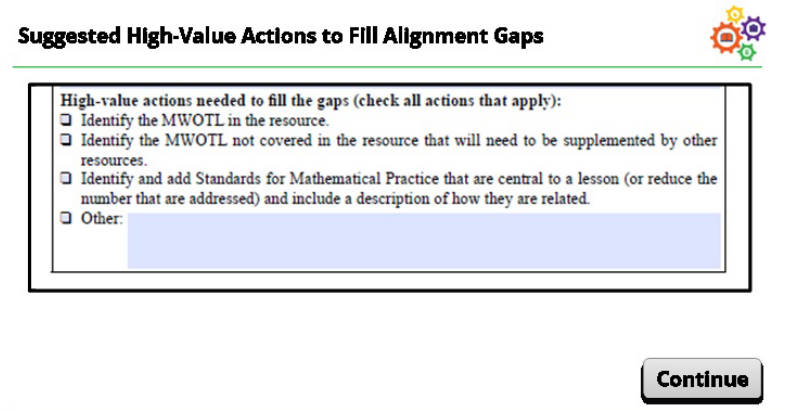
Rating-Each-Dimension



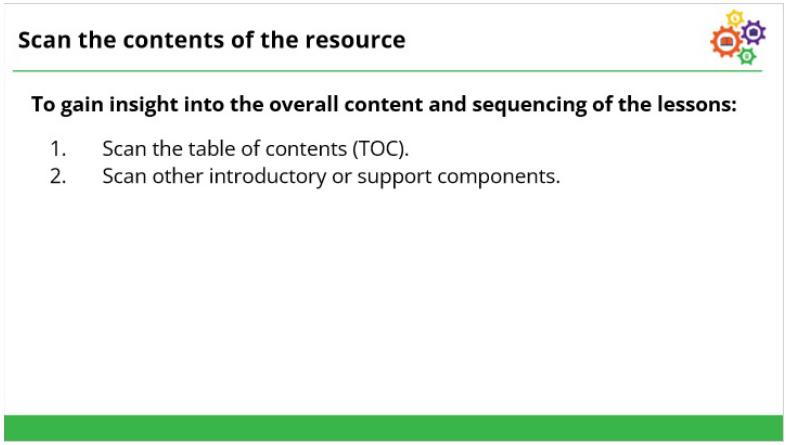
Guiding-Questions



Suggested-High-Value-Actions



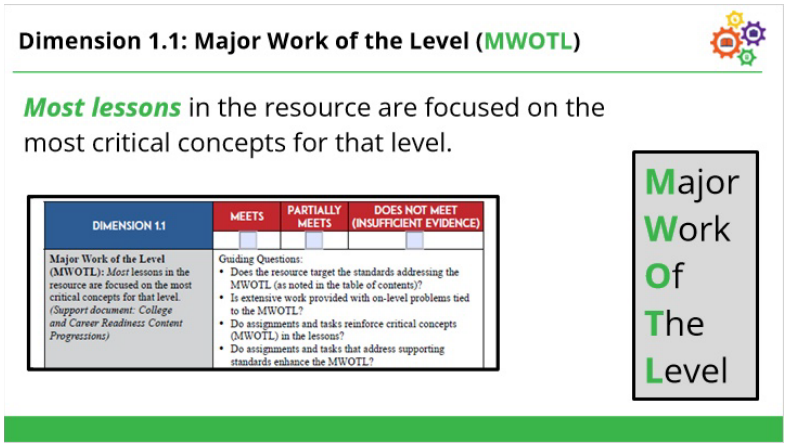
Scan the contents of the resource



Notes:

Prior to using the Resource Alignment Tool (Math Tool 1), please scan the table of contents of the resource you have selected to analyze if one is available. You will also need to scan the introductory or support components of the resource. You will need to ask yourself if the information contained in the resource's table of contents are indicative of the CCR math standards. This activity is designed to determine whether or not the resource, on its face, warrants further analysis.
If the resource you are using is a textbook, take time to scan 20% of the lessons in the book.
Pause the module now to take time to scan the resource's table of contents and introductory or support contents before we proceed to the next steps.
Once you have scanned the resource, feel free to move on to the next slide.

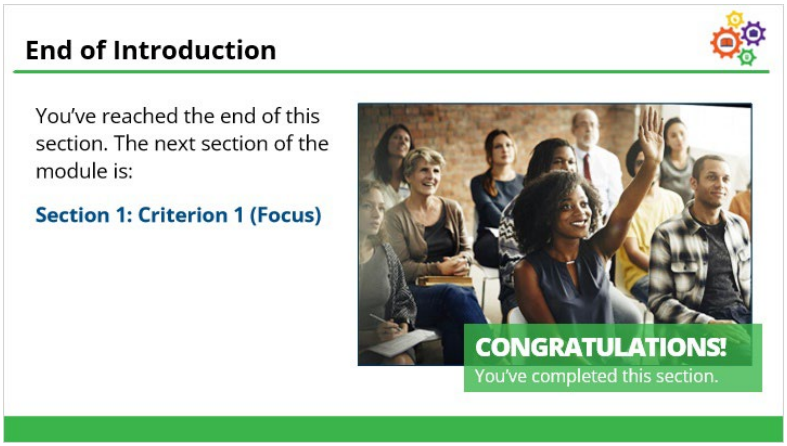
Dimension 1.1: MWOTL



Notes:

Within the criterion of Focus, we are going to look at two dimensions, the first one being the Major Work of the Level (MWOTL). When looking at the resource, you will need to determine whether or not most lessons in the resource are focused on the most critical concepts of the level. Your choice of CCR level (A, B, C, D, or E) should be based on the level of class you teach.

End of Introduction

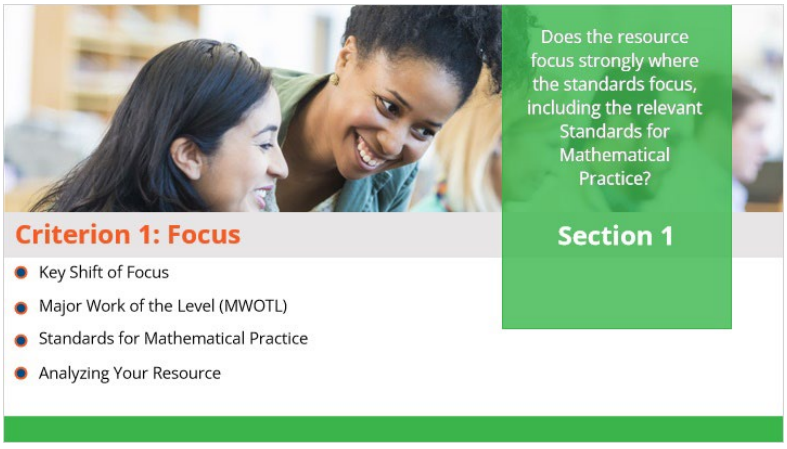


Notes:

Congratulations, you've reached the end of this section. Please advance to the next section to continue the module.

Section 1

Section 1: Criterion 1 (Focus)

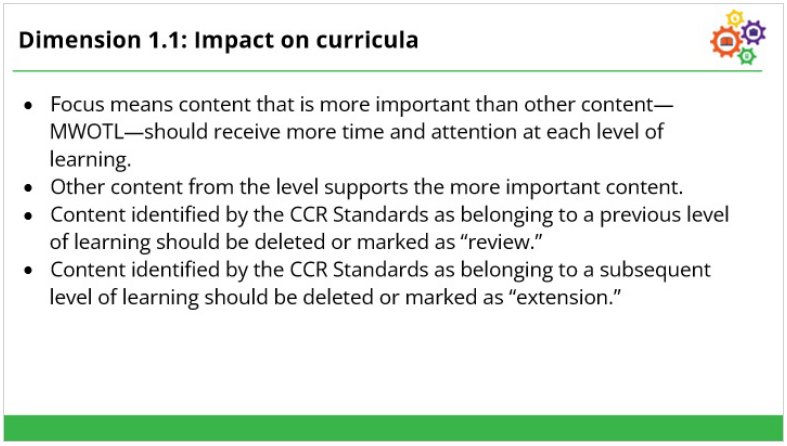


Notes:

In Section 1, we will examine the key shift of Focus. This refers to the practice of focusing your instruction on skills included in the Major Work of the Level to ensure your learners have the math skills they need. It also ensures that each lesson connects with content in the Standards for Mathematical Practice.

Now let's begin by analyzing our resource for focus.
Click Next to continue.

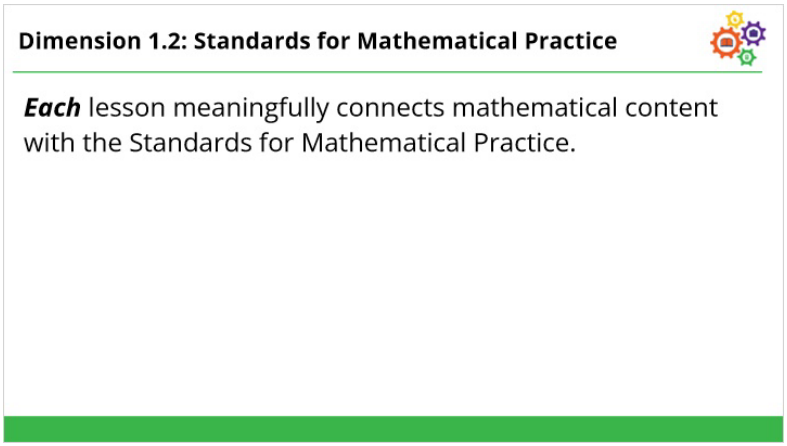
Dimension 1.1: Impact on curricula



Notes:

When considering focus and its impact, the content that focuses on the Major Work of the Level (MWOTL) should receive more time and attention. This does not intend to dismiss other supporting standards of the level. Supporting standards are those standards that support the MWOTL and are indicated by italicized text. If CCR Standards from previous levels are identified within the lesson, you may choose to delete the lesson or indicate the content as "review material." For CCR Standards belonging to subsequent levels, you would either delete the lesson or mark it as extension. We will learn more above this as we analyze the resource.

Dimension 1.2: Standards for Mathematical Practice



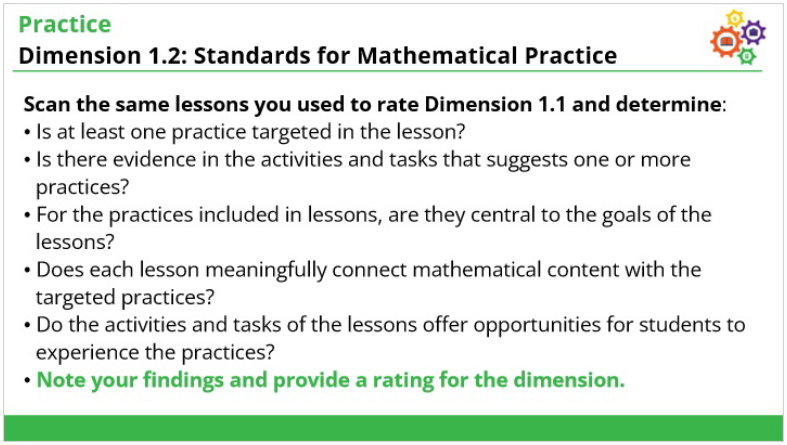
Notes:

Now that we have completed the analysis of Dimension 1.1, we will be moving on to Dimension 1.2 - Standards for Mathematical Practice. We will be using the same process as we did in the previous dimension.

When looking at Dimension 1.2, you will need to ask yourself whether or not each lesson meaningfully connects mathematical content with the Standards for Mathematical Practice.

You will need the Standards for Mathematical Practice (Math Tool 3) and Mathematical Practices Look-Fors (Math Tool 3a) for this exercise.

Practice: Dimension 1.2



Notes:

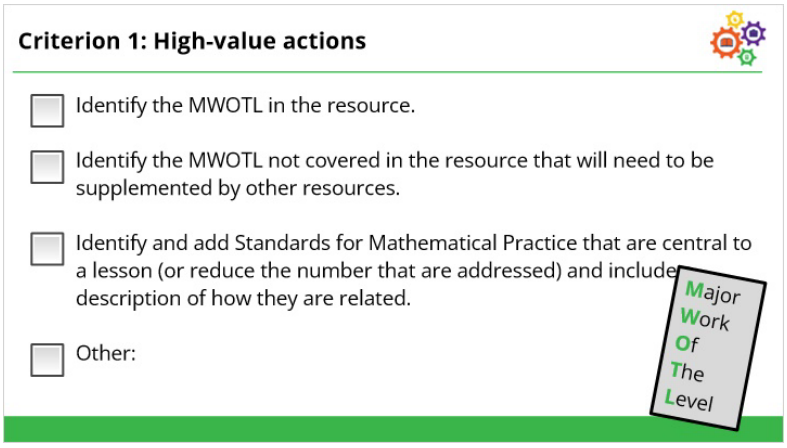
Scan the same lessons you used to rate Dimension 1.1 and determine the following:

- Is at least one practice targeted in the lesson?
- Is there evidence in the activities and tasks that suggests one or more practices?
- For the practices included in lessons, are they central to the goals of the lessons?
- Does each lesson meaningfully connect mathematical content with the targeted practices?
- Do the activities and tasks of the lessons offer opportunities for students to experience the practices?

As in Dimension 1.1, please note the strengths and weaknesses in the Summary of Strengths and Weaknesses and rate Dimension 1.2 as "Meets," "Partially Meets," or "Does Not Meet."

Please pause the module to note your findings and rate Dimension 1.2.

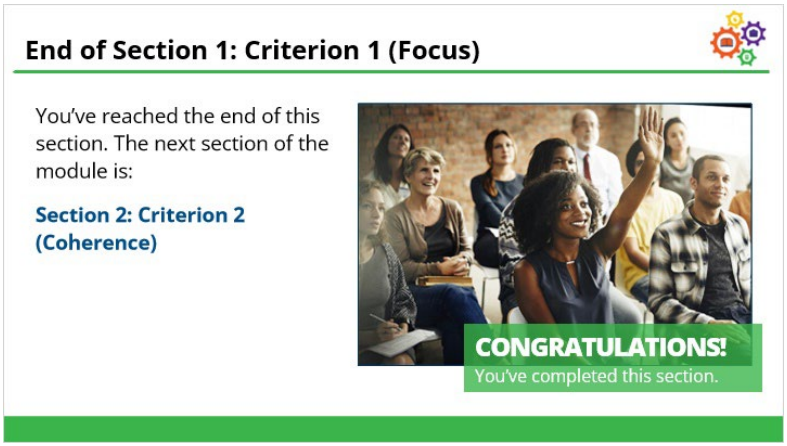
Criterion: High-value actions



Notes:

Now that each Dimension 1.1 and 1.2 has been rated and the Summary section indicates the strengths and weaknesses of the resource, please place a check mark next to the high-value actions needed to fill the gaps in the resource. Please keep in mind that we are not preparing materials to fix the gaps; we are identifying the actions needed to fill the gaps.

End of Section 1



Notes:

Congratulations, you've reached the end of this section. Please advance to the next section to continue the module.

Section 2

Section 2: Criterion 2 (Coherence)

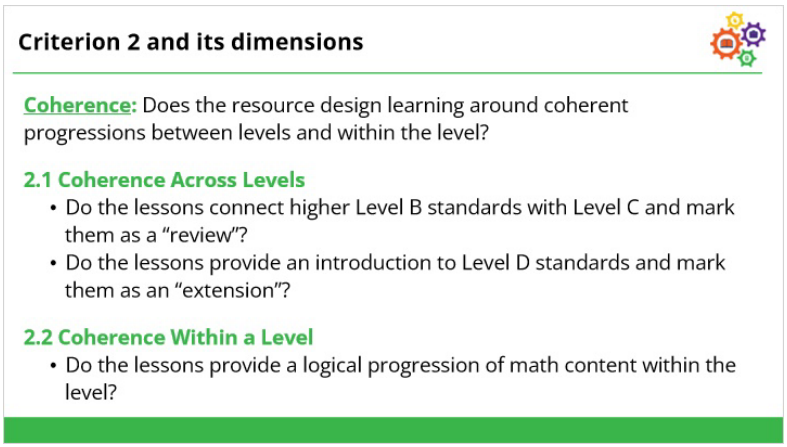
Notes:

In Section 2, we will examine the key shift of Coherence, which means the math content you teach should connect to the previous and next math content for that level as well as across each CCRS level.

Now let's begin by analyzing our curricular resource for Coherence.

Click Next to continue.

Criterion 2 and its dimensions



Notes:

When looking at Criterion 2: Coherence, we encounter two dimensions. One dimension analyzes coherence across levels within the math CCR Standards, and the other looks at coherence within a specific level of the standards. You should consult the CCR Content Progressions (Math Tool 2) to assist you in determining this.

For example, if you primarily teach math students at Level C of the CCR Standards, you would consider the following:

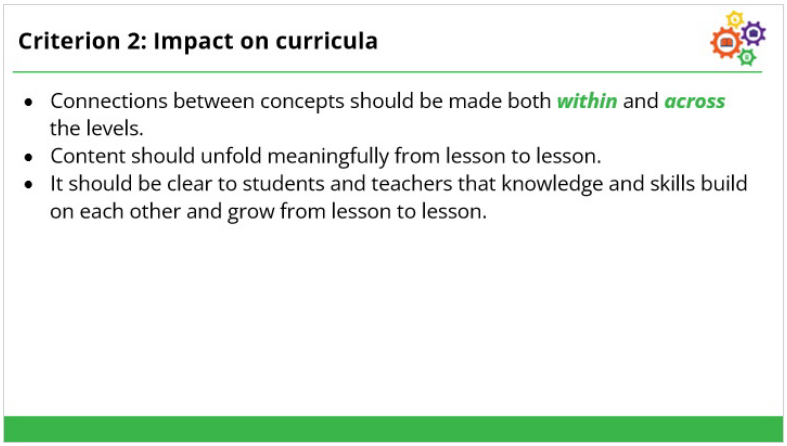
For Dimension 2.1:

- Do the lessons connect higher Level B standards with Level C and mark them as a "review"?
- Do the lessons provide an introduction to Level D standards and mark them as an "extension"?

For Dimension 2.2:

- Do the lessons provide a logical progression of math content within the level?

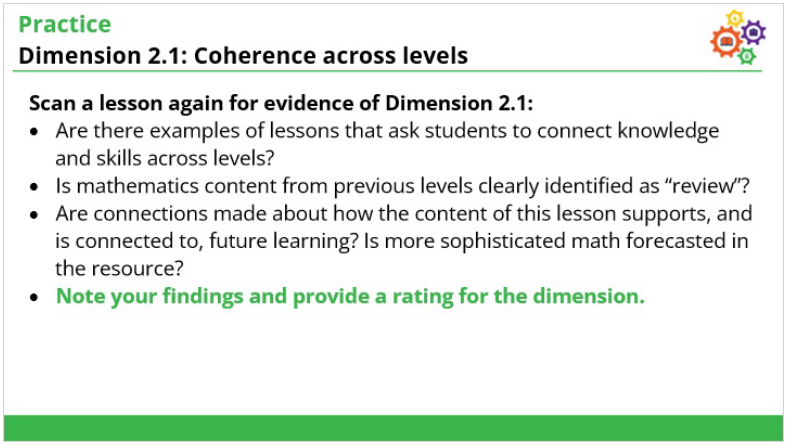
Criterion 2: Impact on curricula



Notes:

The impact of coherence is to form connections between concepts within and across levels. The content should unfold meaningfully from lesson to lesson. It should be clear to students and teachers that knowledge and skills build on each other and grow from lesson to lesson.

Practice: Dimension 2.1



Notes:

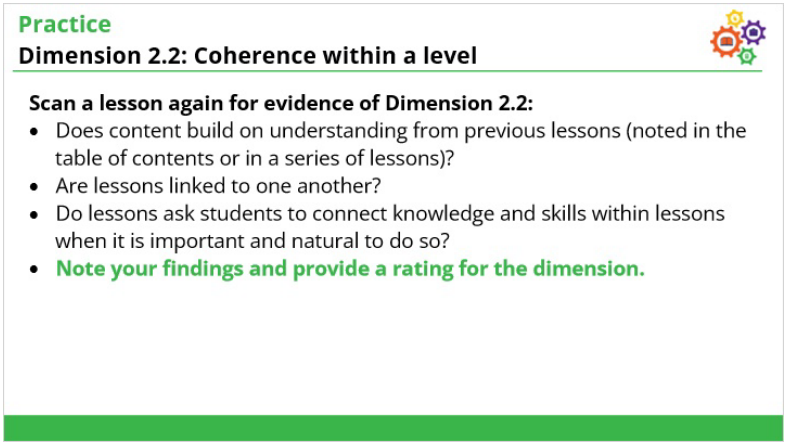
You will now scan the same lesson(s) used in Criterion 1 for evidence of Dimension 2.1.

For Dimension 2.1, you will be looking to determine whether the resource regularly

relates on-level concepts to knowledge from previous levels and to future learning.

Please stop the module to analyze the resource and rate Dimension 2.1 on the Resource Alignment Tool.

Practice: Dimension 2.2



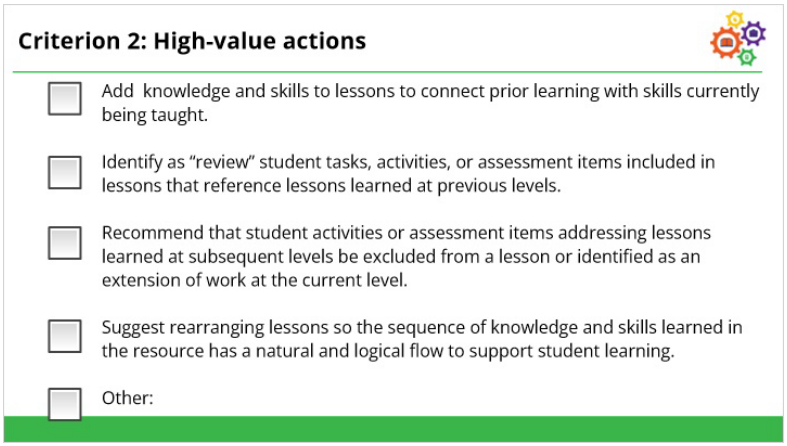
Notes:

You will now scan the same lesson(s) for evidence of Dimension 2.2.

For Dimension 2.2, you will be looking to determine, where appropriate, the resource connects two or more standards within a progression, or two or more progressions within a level. You will probably need to consult the CCR Content Progressions Math Tool 2.

Please stop the module to analyze the resource and rate Dimension 2.2 on the Resource Alignment Tool.

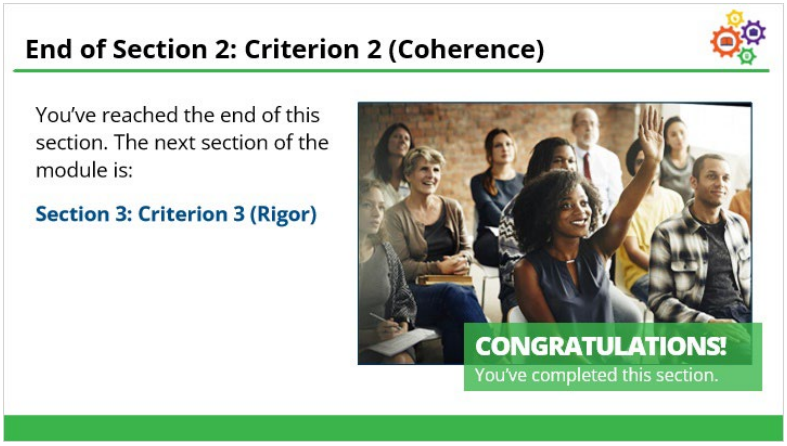
Criterion 2: High-value actions



Notes:

Take a moment to note the high-value actions needed to fill the gaps within the lesson by placing a check in the checkbox for the items needed.

End of Section 2

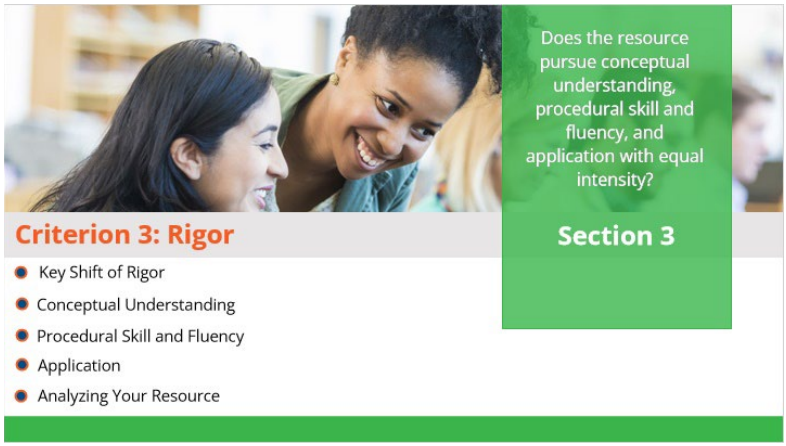


Notes:

Congratulations, you've reached the end of this section. Please advance to the next section to continue the module.

Section 3/Conclusion

Section 3: Criterion 3 (Rigor)



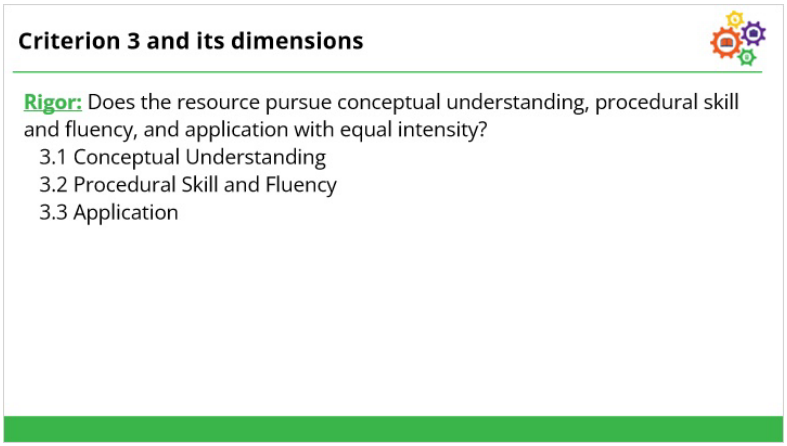
Notes:

In Section 3, we will examine the key shift of Rigor. We will determine if the resource provides instruction that helps learners develop conceptual understanding of how to solve the problem, procedural knowledge of the steps involved in solving the problem, whether it builds fluency, which is the speed that learners can solve math problems, and also if it provides opportunities for students to apply the mathematical concepts they have learned.

Now let's begin by analyzing our curricular resource for Rigor.

Click Next to continue.

Criterion 3 and its dimensions



Notes:

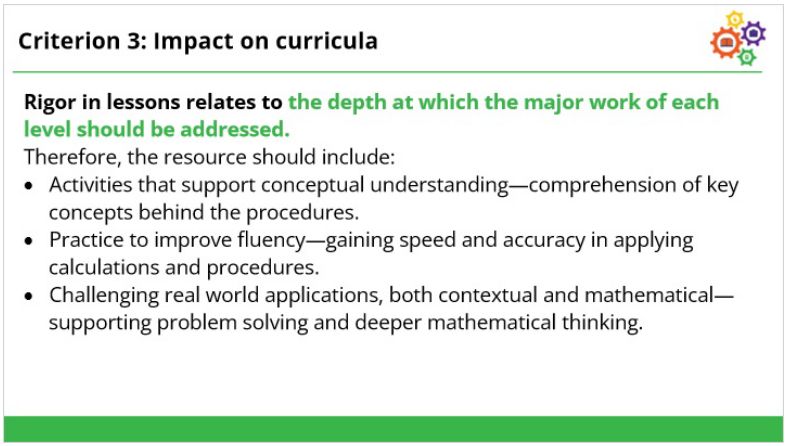
Rigor contains three dimensions related to conceptual understanding, procedural skill and fluency, and application.

Students with a solid conceptual understanding see mathematics as more than just a set of procedures. They know more than "how to get the answer" and can employ concepts from several perspectives.

Procedural fluency refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently.

When students develop mathematical thinking in core concepts that they can apply across all levels, they are able to problem solve and redirect themselves when answers don't make sense, even in situations in which they haven't been specifically trained.

Criterion 3: Impact on curricula

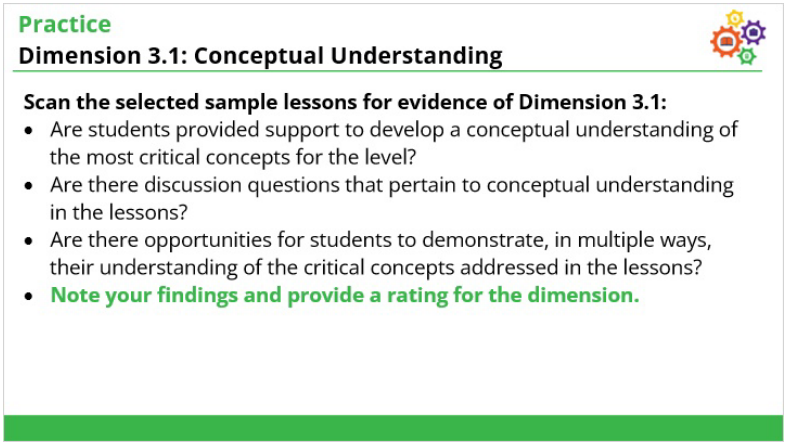


Notes:

Rigor in lessons relates to the depth at which the major work of each level should be addressed. Therefore, the resource should include:

- Activities that support conceptual understanding—comprehension of key concepts behind the procedures.
- Practice to improve fluency—gaining speed and accuracy in applying calculations and procedures.
- Challenging real world applications, both contextual and mathematical—supporting problem-solving and deeper mathematical thinking.

Practice: Dimension 3.1



Notes:

You will now scan the same lesson(s) for evidence of Dimension 3.1. Conceptual Understanding is evident if the resource regularly develops students' conceptual understanding through tasks, problems, questions, multiple representations, and opportunities for students to write and speak about their understanding.

The evidence you will be looking for is as follows:

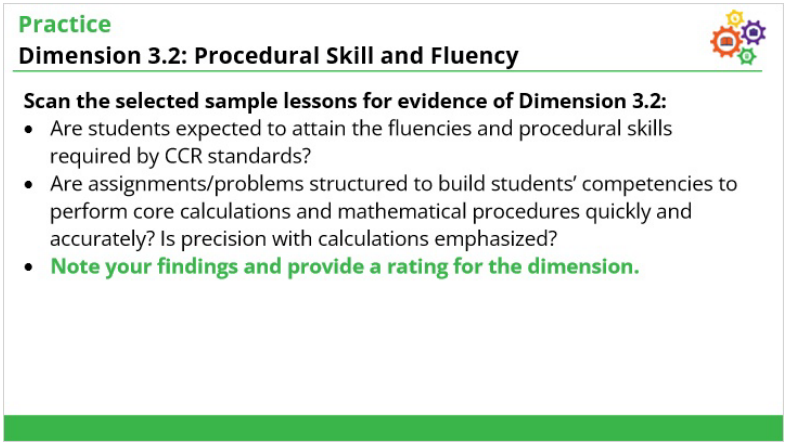
Are students provided support to develop a conceptual understanding of the most critical concepts for the level?

Are there discussion questions that pertain to conceptual understanding in the lessons?

Are there opportunities for students to demonstrate, in multiple ways, their understanding of the critical concepts addressed in the lessons?

Please take a moment to analyze the resource, note your findings, and provide a rating for Dimension 3.1.

Practice: Dimension 3.2



Notes:

You will now scan the same lesson(s) for evidence of Dimension 3.2. Procedural Skill and Fluency is evident if the resource regularly asks students to perform calculations and use mathematical procedures quickly and accurately.

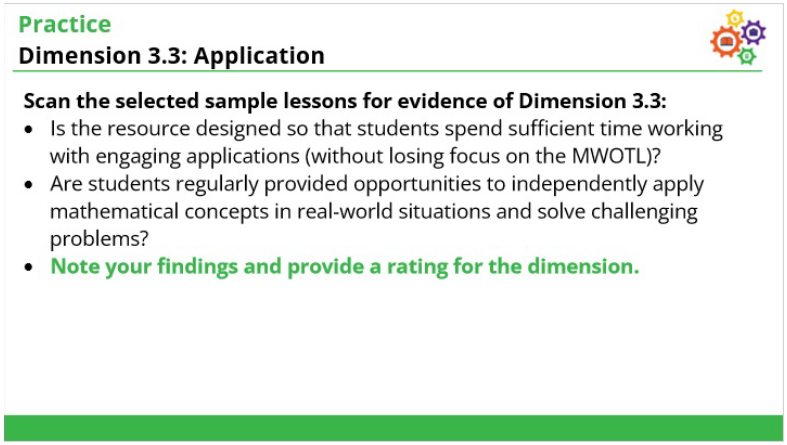
The evidence you will be looking for is as follows:

Are students expected to attain the fluencies and procedural skills required by CCR standards?

Are assignments/problems structured to build students' competencies to perform core calculations and mathematical procedures quickly and accurately? Is precision with calculations emphasized?

Please take a moment to analyze the resource, note your findings, and provide a rating for Dimension 3.2.

Practice: Dimension 3.3



Notes:

You will now scan the same lesson(s) for evidence of Dimension 3.3. Application is evident if the resource regularly requires students to engage in challenging applications of mathematics in real-world and mathematical contexts.

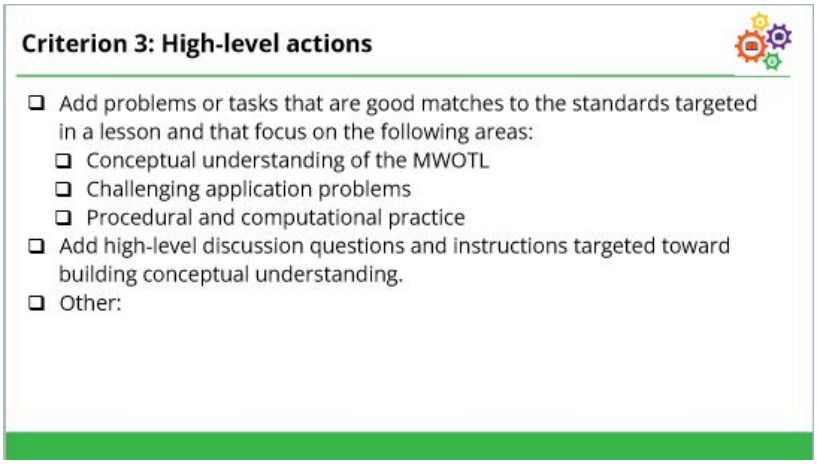
The evidence you will be looking for is as follows:

- The resource is designed so that students spend sufficient time working with engaging applications, without losing focus on the MWOTL.
- The resource regularly provides opportunities to independently apply mathematical concepts in real-world situations and solve challenging problems that require students to choose an appropriate model or strategy.

Please take a moment to analyze the resource, note your findings, and provide a

rating for Dimension 3.3.

Criterion 3: High-value actions

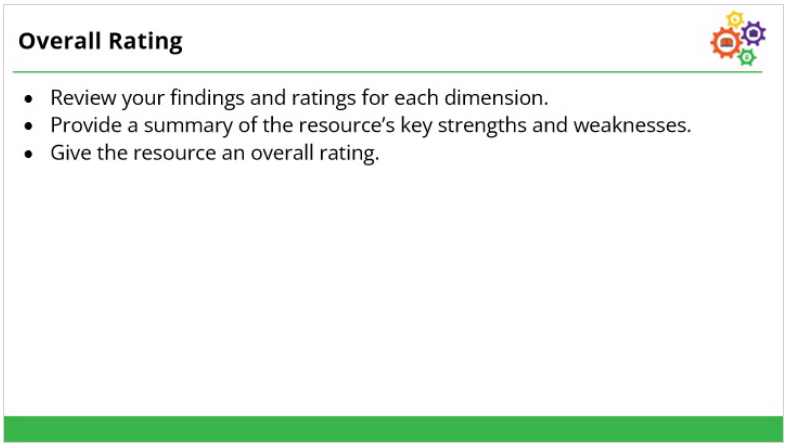


Notes:

Now that we have rated each dimension within Criterion 3, you will determine what high-value actions need to be taken to improve the alignment of the resource. Improving the alignment can be addressed by: 1) supplementing the resource with another text, 2) using teacher-created materials to address gaps in the primary resource, or 3) designing a culminating experience that addresses the three dimensions of rigor equally.

Please take a moment to determine the high-value actions necessary to improve alignment.

Overall Rating



Notes:

Now that you have analyzed the resource using the three criteria (Focus, Coherence, and Rigor) and the seven dimensions, it is time to make a final determination about the resource's alignment.

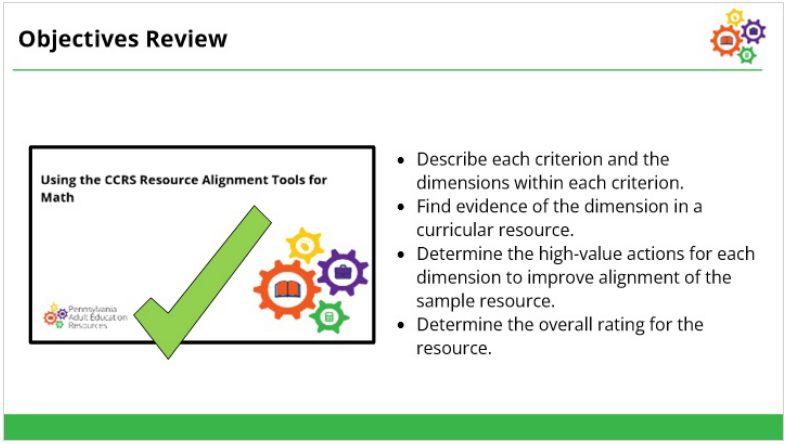
The resource is Tightly Aligned if most (four or more) of the dimensions are rated as "Meets," with the remainder as "Partially Meets." There are either a few minor revisions or no revisions needed to improve alignment of the resource to CCR Standards.

The resource is "Partially Aligned" if most (four or more) of the dimensions are rated at least "Partially Meets". Moderate revisions are needed to improve alignment of the resource to CCR Standards.

The resource is "Weakly Aligned" if most (four or more) of the dimensions are rated as "Does Not Meet." Substantial revisions are needed to improve alignment of the resource to CCR Standards.

Please take a moment to determine the overall ranking of this resource and to complete an overview of Summary Findings indicating the resource's strengths and weaknesses. This should appear below the resource's overall ranking.

Objectives Review



Notes:

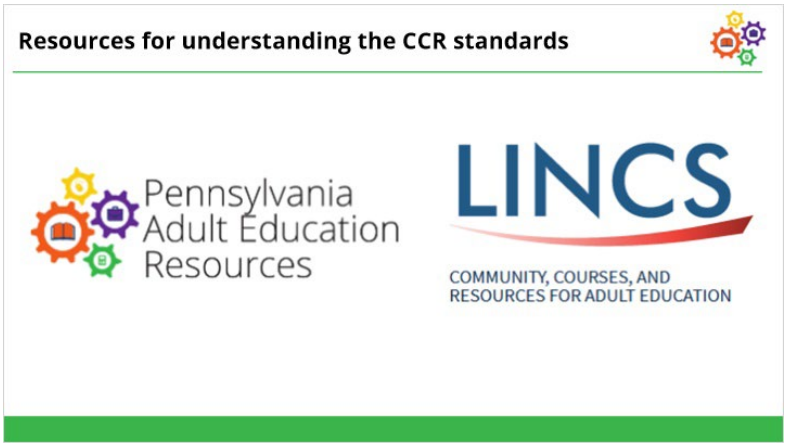
Congratulations! You have reached the end of the module. By now, you should be able to

- Describe each criterion and the dimensions within each criterion on the Resource Alignment Tool.
- Find evidence of the dimension in a curricular resource.
- Determine the high-value actions for each dimension to improve alignment of the sample resource.
- Determine the overall rating for the resource.

Please note that you may have different feelings about how well aligned your resource is to the CCR Standards at the completion of each criterion. It is important to refrain from making complete judgments, either good or bad, about the resource you have chosen until you have completed the entire analysis process.

Through this module, you learned how to use the CCR Standard Math Resource Alignment Tool to evaluate the alignment of a curricular resource to the CCR Standards.

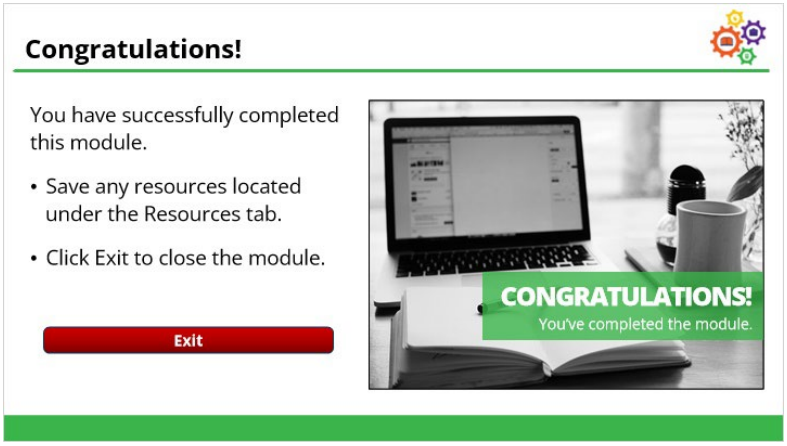
Additional Resources



Notes:

For more information and useful resources relating to the College and Career Readiness Standards, you may refer to the College and Career Readiness Standards (CCRS) page on the Pennsylvania Adult Education Resources website. You can also explore the resources on the LINCS website. LINCS is a national leadership initiative of the U.S. Department of Education, Office of Career, Technical, and Adult Education (OCTAE). The purpose of this site is to expand evidence-based practice in the field of adult education. Both these websites are linked in the Resources tab of this module. You may also wish to contact your in-house professional development specialist (IHPDS) if you are interested in further instruction or coaching relating to this topic. Your IHPDS will also be able to recommend additional training, depending on your needs and interests.

End of Section 3 (Conclusion)



Notes:

Congratulations! You have completed this module. Be sure to download any resources you want to save by clicking on the Resources tab. Click on the Exit button below to close the module.