MATHia® USER'S GUIDE

MATHia Software
The World's Best Math Learning Platform

(a)
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Launch the Software as a Student

Username: ________________________________

Password: ______________________________

FIRST TIME SIGNING IN

2. Click Set Your Password.
3. Enter your school name.
4. Enter your username (given to you by your teacher).
5. Click Next.
6. You will be prompted to enter and confirm a password of your choice, and then click Set Password.
7. You will be returned to the Sign In page to sign in to your MyCL account.

TO LAUNCH THE SOFTWARE

2. Enter your username.
3. Enter your password.
4. Click Sign In.
5. You will be prompted to enter your school name.
6. Click Sign In.
7. From the MyCL portal page, click the MATHia button that has your class name listed above it.
The Pre-Launch Protocol / Getting Started module is presented at the beginning of each course in the software. It provides an overview on how to use the various tools in the MATHia® Software and introduces key learning science topics.
KEY FEATURES OF THE STUDENT SOFTWARE

Unit Overview

The Unit Overview page engages you in the learning experience, and gives you a clear set of learning goals, a link to the real world, and a connection back to the math you already know so that you can build on it throughout the unit.

- Learning goals for the unit are listed here.
- The Key Terms that are introduced in the unit are available here, hyperlinked to their entries in the glossary.
- Video that links the math back to the real world and outlines what you will be learning is located here.
- Math content areas that you should be familiar with before beginning this unit are listed here.
KEY FEATURES OF THE STUDENT SOFTWARE

Step by Step

The Step by Step demonstrates how to use the tools in a lesson by guiding you step by step through a sample math problem.

STARTING A STEP BY STEP

When you click Let’s Go!, the Step by Step will begin automatically.

Basic Instructions:

1. Read the scenario.
2. Read the hint in the little window and try to answer the question. If you don’t know the answer, you can guess. This will not affect your skill level.
3. If you enter the wrong answer twice, the system will correctly complete the step for you. Take some time to think about why the suggested answer is the correct one.
4. Continue answering the questions until you complete the problem.
5. Click Go to Problem to go to the required math problems.
**KEY FEATURES OF THE STUDENT SOFTWARE**

**Text to Speech**

New! Text to Speech is now available throughout MATHia to support you as you work through the content.

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**Click the speech bubble on the screen to enable Text to Speech. This will also highlight the text. Stop and Pause buttons are available to give you further control.**

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You can select which voice you hear, or customize the speed and pitch at which it reads, from the Preferences menu. The Text to Speech tool can also be turned on in the Preferences.
KEY FEATURES OF THE STUDENT SOFTWARE

Sample Problem

Sample Problems are available for most workspaces and can be used as a reference when working through other problems.

You can select the Sample Problem icon at any time to display the example and analyze it alongside the problem that you are currently working on.
KEY FEATURES OF THE STUDENT SOFTWARE

Hints

Hints are available throughout the software to help you solve the problem you're working on.

JUST-IN-TIME HINTS

When you make a common error, a Just-in-Time Hint will automatically appear. These are indicated by the arrow in a red text box.

ON-DEMAND HINTS

You can ask for a hint at any time while working on a problem by clicking the Hints icon.

Hints are available throughout the software to help you solve the problem you're working on.
KEY FEATURES OF THE STUDENT SOFTWARE

System Help

System Help offers detailed assistance with the software tools and interface.

The System Help tool gives you helpful information on getting started and working with the software tools.
KEY FEATURES OF THE STUDENT SOFTWARE

Glossary

The Glossary is available throughout the software. It contains a list of definitions and examples for key mathematical terms used throughout the curriculum.

The Glossary opens automatically when you click on any of the key terms links in the lesson page. For example, choosing the link mean in the lesson opens the Glossary entry for mean as shown.

From the search tab of the Glossary, use the find box at the top left to search for a topic or term. You should enter complete words, but do not be too detailed, as the search is based on exact matching of the words entered. Any topic or term in the Glossary with text that matches your search will be displayed in the left window, in alphabetical order. Click on the term in the left window that you wish to view, and a definition and example for the term will appear in the right window.

The Glossary is also available in Spanish and can be accessed by clicking the Español button at the top.
KEY FEATURES OF THE STUDENT SOFTWARE

Progress Meter

The Progress Meter shows a summary of the major skills that are being covered in a given problem solving workspace as well as your progress on those skills.

PROGRESS METER

The Progress Meter helps students visualize progress through a workspace. The Progress Meter has two views: Summary and Detail. The Summary View is the default view providing a quick, at-a-glance summary. The Detailed View shows the more detailed progress or skill information. Collapse or expand the Progress Meter at any time to access.

Concept Builder workspaces focus on developing understanding of math concepts. These workspaces provide essential learning to prepare for Mastery workspaces that follow. Concept Builder workspaces occurring at the end of a Unit help make important connections and/or summarize the learning from the previous workspaces. In Concept Builder Workspaces, the Progress Meter shows students which step they are on in the current problem, how many steps are left, and how many problems are left in the workspace.
Mastery workspaces provide highly individualized and self-paced instruction to deepen conceptual understanding of the mathematics. The Progress Meter in Mastery workspaces shows progress toward skill mastery. Each skill's name, such as “Calculate quotient,” is displayed alongside a corresponding progress ring that adjusts with the level of mastery. The level of mastery is not a percent of correct and incorrect responses. Rather, it’s a predictor of the probability that you will be able to demonstrate that skill again the future. Progress rings move from blue to green to indicate mastery.

**SKILL TRACKING BEHAVIOR**

At the beginning of a given unit, the initial skill levels will not be zero, because it is likely that you may already be familiar with a skill or be able to learn it unassisted. With each correct answer, the level of mastery increases because there is a greater probability that you understand the skill and will be able to complete a similar task in the future. Answering incorrectly or asking for a hint usually indicates incomplete understanding of a given skill, so its level of mastery may decrease as a result. For some skills, it is likely that reading a hint will increase understanding, so the level of mastery may increase in that situation. Similarly, for some skills, it is likely that by answering incorrectly, you will “learn from your mistake,” so in those cases the level of mastery may increase as well. Note that the level of mastery will no longer increase from getting hints at a certain point, even if you continually request hints, so it’s not possible to “hint” your way through to complete a unit.
Instructional Tools

MATHia features five different instructional strategies that you will experience as you work through the problems. The five types of workspaces are balanced to make sure you fully engage and develop your math skills.

**EXPLORE TOOLS**

Explore Tools give you the opportunity to investigate mathematical concepts, search for patterns, and look for structure in ways that make sense to you. These tools also provide optional supports for you as you answer questions and solve problems.

**ANIMATIONS**

Animations provide you with an opportunity to watch, pause, and re-watch demonstrations of various mathematical concepts. They are a way to connect the representations of different mathematical ideas to their abstract underpinnings through visual depictions and audio narration.
CLASSIFICATION TOOLS

Classification Tools allow you to apply your mathematical understanding by categorizing answers based on similarities. These tools also give you a way to demonstrate proficiency in recognizing patterns in problem structure.

PROBLEM SOLVING TOOLS

Problem Solving Tools give you highly individualized and self-paced instruction that adapts to your exact needs to deepen your conceptual understanding of mathematics. Through adaptive learning technologies, you engage in reasoning and sense-making.
WORKED EXAMPLES

Worked Examples give you a tool that helps you to question your understanding, make connections with the steps, and ultimately self explain. Analyzing Worked Examples also helps you to identify your own misconceptions, make sense of the mathematical concepts involved, and then, ultimately, to persevere in problem solving.
Motivational / Engagement Features

MATHia gives you a variety of tools and customization features that enable you to create a unique learning experience.

You can access the customization features by clicking on the avatar on your MATHia homepage, or through the Preferences that display when you click on your name in the upper right hand corner.

HOMEPAGE

The homepage gives you a clear picture of the work that is ahead of you by showing you the modules, units, and number of workspaces that have been assigned to you.

Unlocked units have a Let’s Go! or a Review button. Review indicates completed units that you can go back to and review.

Modules can be expanded or collapsed by clicking any empty part of their box.
GROWTH MINDSET LANGUAGE IN ANIMATION

Research shows students who believe that they can get smarter will work harder — in other words, learning about how learning changes the brain has been shown to increase students' confidence in their ability to learn. Within MATHia, we praise effort above innate ability.
AVATAR BUILDER

The Avatar Builder provides you with over 50 options and accessories to select from.
Customer Support

Customer Support is available to answer your questions about using the software.

**Email:** help@carnegielearning.com
**Phone:** 877.401.CLCS (2527) or 888.851.7094 (Select Option 1)
**Chat:** Visit www.carnegielearning.com/contact and click Customer and Tech Support to connect with us via chat.

**Websites:** Carnegie Learning MyCL Portal
www.carnegielearning.com/login

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Once logged in, Tech Support is available by clicking the Help Center button in the upper right hand corner.
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Getting Started for Teachers

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SIGNING IN FOR THE FIRST TIME

2. If you didn't get a MyCL account invitation from a colleague, click Register Now on the left side of the screen and set up your MyCL account. Please note, it may take up to one full business day for your account to be vetted by Customer Support.
3. Once you are signed in to the MyCL portal page, you will see icons that will launch you into Teacher's Toolkit, the Resource Center, and Tech Support, as well as any additional products that your school is licensed to access.

SIGNING IN AFTER THE FIRST TIME

2. Enter your Username and Password.
3. Click Sign In.
4. Click the Teacher's Toolkit button.

To skip the Customer Support vetting process, ask a colleague to send you a MyCL account invitation by using the Invite Colleagues button on their MyCL portal page.
Content Preferences

Content Preferences let you to customize the content sequences that appear in your Content Browser. You can update your Content Preferences at any time.

Course descriptions will display as you roll your mouse over the course titles.
Using the Content Browser

The Content Browser lets you view and print the Table of Contents and Workspace Descriptions for any curriculum, view the solutions to individual problems, and launch the software for any workspace or problem.

**View Unit Overview** displays the Unit Overview in the software.

**Launch Workspace** starts the software for that workspace and lets you work through the problems just like a student would.
Adding Students to Your School

You can add students to your school manually or by importing their data from a comma or tab delimited file (CSV).

Use the Add screen to manually add students to a school by typing in their information across the row. The required fields are Last Name, First Name, and Username.

From this drop-down menu, you can set your preference for how usernames should be generated as student information is entered.

Usernames are required for students to log in to the software. You will need to share usernames with your students prior to their first session on the software.

Usernames must be unique. You can differentiate students who share the same first and last name by adding their middle initials to their first names.
Use the Import screen to import students from a comma or tab delimited file (CSV).

Select the file containing student names. Because the first five fields in the file will be imported, you should make sure that your file has the right fields in the right order.
Using the Create Class Wizard

The Create Class Wizard will walk you through the process of setting up your class. You will name your class, choose the appropriate content for it, and assign students to it.

TO CREATE A NEW CLASS

1. **Pick Product:**
   Select the product(s) that need to be assigned to the class.

   MATHia is the only licensed product available to be assigned.

   Assign students MATHia and textbook access in order to facilitate a blended classroom.
2. **Select Content:**
   Select an option for the source modules.
   
   a. Select the Instructor from the drop-down menu.
   b. Fill in the Class Name.
   c. Select the Start Date and End Date for the class.
   d. Select the set of mathematical standards that you would like to have displayed in the Skills and Standards report.
   e. Choose the Theme, Class Category, and Profile for your class.
   f. Click **Continue**.
3. Select Content:

a. **Choose a Constructed Course**: Select Carnegie Learning standard curricula that you can customize for your class.
b. **Copy Modules from Class**: Use a curriculum that has been created for another class. You can optionally edit the curriculum.
c. **Select Modules**: Select and arrange modules as a primary or additional curriculum.

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**Choose a Constructed Course**

Only Carnegie Learning Courses are constructed courses.

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Curriculum Time Estimates are provided for teachers to gauge approximately how long it will take the class to complete the Primary modules in the sequence.

Note about the Curriculum Time Estimates data:

- Hours displayed reflect Primary modules.
- The data is informed by Carnegie Learning historical usage data that spans across many student populations and class types, so your class’ usage time may vary.
Copy Modules from a Class

Classes created by you and other teachers at your school are available here.

The Search function can be used to narrow your choices.

Select Modules

Select individual modules to create your own sequence.
4. **Add Students:**

a. **Import Class Roster:** Use this option if you have an external .csv file that contains the students that will be in this class.

b. **Add New Students:** Use this option if you want to manually add students to the school and automatically assign them to this class.

c. **Select Existing Students:** Use this option if students have already been added to your school and you need to assign them to this class.
Copying Classes

Using the Copy Class tool is helpful when large numbers of classes with the same assigned products and content need to be created.

TO COPY AN EXISTING CLASS

1. **Copy a Class:**
   Select the **Copy Existing Class** button on the Teacher’s Toolkit homepage.
2. **Entering New Class Information:**

   a. Select the class that you'd like to copy from the drop down menu.
   b. Type in the name of the new class.
   c. If required, change the instructor.
   d. Select the blue **Copy Class** button to save and move on.
3. **Viewing Class Details:**
   Once saved, you will be redirected to the Class Details screen for the newly created class.

4. **Enrolling Students:**
   Students will need to be enrolled into the class. See page 31 for instructions on how to add and enroll students into the class.
### Adding Products to a Class

Adding additional products to a class is always possible from the class Overview screen.

1. **Begin Editing the Class:**
   Select the **Edit** button in order to begin the process of adding a product to the class.

2. **Choose to Add Product:**
   Select the **Add Product** button to view the list of available products.
3. **Pick Product:**
Check the box(es) for the products that need to be assigned.

4. **Save Product:**
Select OK to move on to the next step of assigning content.
Assign Content:

ASSIGN TEXTBOOK CONTENT

a. Select the Edit button to view the available textbook resources.

b. Check the boxes for the textbook resources to assign to the class and select the Save button.
ASSIGN MATHIA CONTENT
Navigate to the Table of Contents tab and select the **Edit** button to view the available MATHia modules.
Using the Create Module Wizard

The Create Module Wizard lets you construct a customized sequence of units to use as a module. You can add to, reorder, and/or eliminate units of instruction from any of the modules owned by your school or school district.

1. **Select Method:**
   To get started, click **Create Module**, and enter a unique name that's less than 26 characters long. Click **Create New** when complete.

   ![Create Module Wizard Screenshot]

   - There are three steps to create your custom module.
   - Click **Select Module** to continue working on a module that you've already started.
   - Click **Create New** to move on to the next step.
2. **Select Content:**
Select the Content for the module:

- a. Select existing module(s) from which to choose units.
- b. Select units from the list of what's available to include in your Custom Module.
- c. Put the units in whatever order you prefer.
- d. Analyze the Custom Module for redundancies.
- e. Save your work and continue to the next step.

Begin by selecting a Source Module. You can limit the list of modules by using the Filter by Syllabus drop-down menu or the Search tool.

The Preview button allows you to view the sample module at anytime. When you click Save / Analyze, the software analyzes the order of your selected units and checks for redundancies between them. Click Save / Analyze when you have a unit order you're happy with.

Curriculum Time Estimates are provided for teachers to gauge approximately how long it will take the class to complete the custom module.

Note: The data is informed by Carnegie Learning historical usage data that spans across many student populations and class types, so your class’ usage time may vary.

When you click Save/Analyze, a window will open that shows any Redundancy Warnings. We recommend reordering the units as suggested to resolve any warnings.
3. **Publish Module:**
   Once steps 1 and 2 are complete, you can publish the module to make it available for assignment to classes. All teachers from your school will have access to the module.

Once it's been published, the custom module will no longer appear in the Create Module Wizard, and you will not be able to edit it further.
Class Details

The easiest way to get a quick snapshot of your class is with the Class Details screen. In Class Details, you can see your student roster, along with their progress on the modules assigned to them in the software.

To get to the Class Details, click **List** under Classes. Select your class from those listed. Alternately, you can click on a hyperlinked class anywhere that one appears to get to its Class Details.

To un/lock modules for multiple students:

1. Select the students that you would like to un/lock module(s) for.
2. A multiple student row will appear at the top of the table.
3. Click on the module inside this row.
4. Choose from the menu that appears.

Note the difference between modules that are complete, open, or locked for each student.
You can also Lock, Change Placement, or Restart/Skip Problems for individual students from the Class Details screen. Click on the module that you want to adjust for a student in that student’s row.

### Current Workspace: Modeling with Fractional Rates of Change

- **Change Placement**: Make sure that the student is not currently logged in to the software.
- **Lock Module**: Makes the module unavailable to the student.

Have the students log out of the software to Restart Problem or Skip Problem currently assigned to them.
Section 3:
MATHia Reports

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OVERVIEW

Getting Started with Teacher Reports

Valuable information regarding students' usage of the MATHia® Software is at your fingertips in the My CL portal page. This information is critical for assessing your students' learning and adjusting instruction as a result. You are encouraged to run reports weekly.

ACCESSING REPORTS IN TEACHER’S TOOLKIT

From the selection panel, choose the class that you would like to view from the list of available classes.

Next, select the GO button to view reports for that class. You can switch back and fourth between tabs, allowing you to quickly view multiple data metrics for a class or student in just one click.
GROUP FILTER

The Group Filter allows you to define which students are included in the class level summary of each Report. The number next to the text, "Group Summary" displays how many students are included in your current Report.

By default, all students in your class roster are included in the group. Any teachers who are enrolled as students in the class are excluded from the default group. To change this, select the Display Options > Modify Group to select/deselect students to include in the report. The students included in your group will now be displayed in the left navigation panel.

As you navigate between the various reports, the selected group of students will remain. To add or remove students, go back to Display Options > Modify Group.

PRINTING REPORTS

All reports can be generated into a PDF and/or printed. To print, select the icon at the top of the page and a PDF file will be created. You can print or save locally to your computer.

EXPORTING REPORTS

Different sections of each report can be exported into a comma-separated value (CSV) file. To export, select the icon located near the header of each section of a particular report.

This file can then be imported into the spreadsheet software of your choice (e.g. Microsoft Excel or Google Sheets) or your grade book software.

MINIMIZE NAVIGATION

Click the button to minimize or expand the navigation panel within Reports.
FILTERING BY DATE RANGE

Some Reports have the option to filter the results by date range. You can select one of the predefined date ranges or select a custom date range. Use the Apply button to update the Report or the Reset Range to reset the date range picker to the default date range for that Report.

GETTING HELP

There are multiple ways to get help with understanding and interpreting MATHia Reports.

Use the Report Guide for detailed information about each report. Select the Navigation Grid in the top right corner to access the Reporting Glossary. Easily search for a key term or explore the guide.
OVERVIEW

Types of Workspaces in MATHia

There are two types of workspaces in MATHia: Mastery and Concept Builders. It is important to understand the differences between the types of workspaces, so that you understand how progress and performance is measured.

CONCEPT BUILDERS

In Concept Builder workspaces, students engage with a variety of instructional strategies to develop their understanding of math concepts. These workspaces provide students with essential learning opportunities to prepare them for the Mastery workspaces that follow. Concept Builders that occur at the end of a Unit make important connections or summarize the learning from the previous workspaces.

MASTERY

Mastery workspaces provide students with highly individualized and self-paced instruction that adapts to their exact needs to deepen their conceptual understanding of mathematics. Through adaptive learning technologies, they engage in reasoning and sense-making. As students work through Mastery workspaces, they are both developing and demonstrating their knowledge.

In Master workspaces, each step in a problem aligns with one or more skills, creating a given set of skills for each workspace. As students work, MATHia estimates their knowledge of each skill based on whether they complete steps correctly on their own, by using hints, or after making errors. Students move on when they have mastered all of the skills in a workspace (workspace is Mastered) or when they reach the maximum number of problems in a workspace without demonstrating mastery on all of the skills (workspace is Not Mastered). The Performance Score represents the percentage of skills proficient in that workspace.
Each time students log into MATHia, each student’s data is constantly recorded and assessed while the software is also adapting programmatically to the mastery level of each individual student. You can use our reporting system to continually assess this progress and use the results to create individualized, data-driven learning plans.

The following table describes how MATHia reports can be used at the individual student or class level.

<table>
<thead>
<tr>
<th>IF YOU WOULD LIKE TO ...</th>
<th>THEN, RUN THIS REPORT:</th>
<th>REPORT TYPE (Group or Student)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify current student placement in a class</td>
<td>Progress Report</td>
<td>Group or Student</td>
</tr>
<tr>
<td>Prepare for parent conferences or IEP meetings</td>
<td>Progress Report or Skills Reports</td>
<td>Student</td>
</tr>
<tr>
<td>Locate data helpful for grading</td>
<td>Progress Report or APLSE Report</td>
<td>Group</td>
</tr>
<tr>
<td>Group students according to standards progress</td>
<td>Standards Report</td>
<td>Group</td>
</tr>
<tr>
<td>Group students according to skill mastery</td>
<td>Skills Report</td>
<td>Group</td>
</tr>
<tr>
<td>View a summary of how a student is progressing in the software</td>
<td>Progress Report</td>
<td>Group or Student</td>
</tr>
<tr>
<td>Review a student’s most recent session</td>
<td>Session Report</td>
<td>Group or Student</td>
</tr>
<tr>
<td>Summarize student usage data</td>
<td>Session Report</td>
<td>Student</td>
</tr>
</tbody>
</table>
**PROGRESS REPORT**

## Group View

The Group Progress Report provides detailed information about a group of students and their progress and performance at the module, unit, and workspace levels in MATHia. This view identifies student progress across the entire syllabus, including module, unit, and workspace completion status, total time spent in each unit, and performance scores for each completed workspace.

The Progress at a Glance section of the report monitors class-level progress through MATHia.

The table shows the status of every workspace assigned to the student in the class, as well as their current placement within the assigned content, the number of workspaces completed, the syllabus completion percentage and the average performance score for the date range selected.

The **Module View Option** allows the teacher to select which modules to include in the table.

*Primary modules* are those which are assigned to all students. *All modules* include those which are primary, plus additional modules that may be assigned to select students in the class.

The **Average Performance Score** averages all of the performance scores for each workspace completed by the student during the selected date range.

### Progress at a Glance

<table>
<thead>
<tr>
<th>LAST NAME</th>
<th>WORKSPACES COMPLETED</th>
<th>AVERAGE PERFORMANCE SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castle, Dario</td>
<td>23 of 42 (54.8%)</td>
<td>80</td>
</tr>
<tr>
<td>Farren, Mindi</td>
<td>27 of 42 (64.3%)</td>
<td>92</td>
</tr>
<tr>
<td>Girouard, Kurt</td>
<td>23 of 42 (54.8%)</td>
<td>82</td>
</tr>
<tr>
<td>Kroeger, Sheridan</td>
<td>23 of 42 (54.8%)</td>
<td>77</td>
</tr>
<tr>
<td>Loffredo, Norman</td>
<td>27 of 42 (64.3%)</td>
<td>90</td>
</tr>
<tr>
<td>Mcneece, Kaylee</td>
<td>26 of 42 (61.9%)</td>
<td>90</td>
</tr>
<tr>
<td>Sak, Ranee</td>
<td>16 of 42 (38.1%)</td>
<td>94</td>
</tr>
<tr>
<td>Say, Ebony</td>
<td>24 of 42 (57.1%)</td>
<td>97</td>
</tr>
<tr>
<td>Schranz, Gerda</td>
<td>22 of 42 (52.4%)</td>
<td>93</td>
</tr>
<tr>
<td>Thibert, Alvina</td>
<td>25 of 42 (59.5%)</td>
<td>98</td>
</tr>
</tbody>
</table>

The number of **workspaces completed** includes workspaces completed (both mastered and not mastered) during the selected date range.

**Note:** The total number of workspaces per student may be different if a student is assigned additional modules.

---

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WORKSPACE STATES

- Incomplete
  Student's placement was changed to a different workspace and problems or an entire workspace was skipped.
- In Progress
  Student is currently completing problems in the workspace.
- Completed
  Student has mastered all of the skills for a mastery workspace or completed all of the problems in a concept builder workspace.
- Not Mastered
  Student has completed the workspace without having mastered all of the skills. Mastery workspaces only.
- Not Started
  Student has not started this workspace.

DATE RANGES

Upon selecting a date range, the table will reflect the workspaces encountered during the specified date range. For example, if today is October 1 and I select the date range of September 10–15, then:

- Any workspaces a student encounters for the first time after September 10–15 will not be highlighted when this date range is selected.
- If a student started and completed a workspace before September 10th, that workspace cell would not be highlighted.
- If a student started a workspace on September 12 and did not finish it by September 15, the workspace will be in progress, since this was the state of this workspace at the end of the selected date range.

STUDENT DETAILS

Selecting an individual student workspace square provides more detail about the student status for that workspace.

In the example shown, we can see that Kurt spent 56 minutes working on the workspace *Modeling Direct Variation* and did not master it. He completed this workspace on 03/03/2019 with a Performance Score of 56.
The Student Progress Report monitors student progress and performance across the entire syllabus, including module, unit, and workspace completion status, total time spent in each unit, and a performance score for each completed workspace.

The Module Detail view shows the current status of the module and each unit and corresponding workspace. For completed workspaces, the date completed is displayed.

The Type identifies the type of workspace: mastery or concept builder. For more information about the types of workspaces in MATHia, see the Types of Workspaces section.

Status identifies the completion status of the workspace, along with the date the workspace was completed. Completed is the date the student completed the workspace. If the workspace has not been completed, then this column will be blank.

The Workspace Name identifies the workspace the student worked on. If a student encountered a workspace multiple times, you will see an icon next to the workspace name. Click on this workspace row to view the details of each encounter.
STATUS LEVELS

- **MASTERED**: Student has completed the workspace and mastered all skills.
- **COMPLETED**: Student has completed all of the problems in a concept builder workspace.
- **NOT MASTERED!**: Student was moved to the next workspace without having mastered all skills.
- **IN PROGRESS**: Student is currently completing problems in the workspace.

WORKSPACE DETAILS

In the example below, the student encountered the workspace *Introduction to Direct Variation* on 02/25/2019, then encountered the workspace again in review mode on 02/26/2019. Note that when a student encounters a workspace in review mode, a performance score is not calculated. Finally, the student redid the workspace for credit on 03/03/2019. The most recent encounter is what is displayed on the report.

<table>
<thead>
<tr>
<th>Workspace Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction to Direct Variation</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATUS</th>
<th>MODE</th>
<th>COMPLETED</th>
<th>STEP-BY-STEP</th>
<th>PERFORMANCE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPLETE</td>
<td>Redo</td>
<td>03/03/2019</td>
<td>1</td>
<td>96</td>
<td>00h 23m 03s</td>
</tr>
<tr>
<td>COMPLETE</td>
<td>Review</td>
<td>02/26/2019</td>
<td>1</td>
<td>-</td>
<td>00h 16m 08s</td>
</tr>
<tr>
<td>COMPLETE</td>
<td>Review</td>
<td>02/25/2019</td>
<td>0</td>
<td>40</td>
<td>00h 45m 29s</td>
</tr>
</tbody>
</table>

- **Step-by-Step** shows how many step-by-step problems the student completed in the workspace.

- **The Time column displays how much time the student spent working in the workspace. This includes time spent during additional encounters.**

The *Performance* column refers to the individual student’s Performance Score achieved for each completed workspace on a scale of 0–100, with 100 being the highest.

For *mastery workspaces*, this is the percentage of skills mastered in that workspace.

For *concept-builder workspaces*, the Performance Score is based on the students’ hint usage and error rates for that workspace.
SESSION REPORT

Group View

The Session Report is designed to give teachers a day-to-day view of MATHia usage. The class view of this report gives teachers a clear view of student activity during a selected period of time and helps teachers determine if their students are meeting their MATHia usage goals.

You can easily see key usage metrics for the selected date range in the Session Averages section.

The metrics in the Session Averages section only include active students in the selected group. These are students who have logged into MATHia one or more times during the selected date range.

Sessions show the average number of sessions per student for the specified date range. A session includes any time the student logs into MATHia.

Workspaces Completed shows the average number of workspaces completed per student, for the specified date range.

Date Range Picker allows teachers to select a specific date range to include on this report.

Time shows the average time spent in MATHia per student, for the specified date range.

The Bar Graph shows the average time per student for the selected date range.

Problems Completed shows the average number of problems completed per student for the specified date range.

The default view of this report includes data from sessions completed within the last seven days.
The **Session Totals by Student** table provides a more detailed view of student usage during the selected date range. This table summarizes the work each student has completed (time, sessions, workspaces, and problems).

Click on any of the column headings to sort this table.

<table>
<thead>
<tr>
<th>LAST NAME</th>
<th>TOTAL TIME</th>
<th>TOTAL SESSIONS</th>
<th>TOTAL WORKSPACES</th>
<th>TOTAL PROBLEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castle, Dario</td>
<td>06h 23m 43s</td>
<td>19</td>
<td>9</td>
<td>108</td>
</tr>
<tr>
<td>Farren, Mindi</td>
<td>09h 49m 48s</td>
<td>21</td>
<td>15</td>
<td>105</td>
</tr>
<tr>
<td>Girouard, Kurt</td>
<td>08h 25m 42s</td>
<td>16</td>
<td>12</td>
<td>108</td>
</tr>
<tr>
<td>Kroeger, Sheridan</td>
<td>08h 40m 00s</td>
<td>17</td>
<td>13</td>
<td>104</td>
</tr>
<tr>
<td>Castle, Dario</td>
<td>06h 40m 33s</td>
<td>13</td>
<td>8</td>
<td>96</td>
</tr>
</tbody>
</table>
SESSION REPORT

Student View

All of the metrics from the Group Session Report are the same for the Student Session Report, except instead of group averages, teachers see individual student totals for the selected date range.

The All Session Details Table is a detailed view of the work completed each time the student logged into MATHia.
SKILLS REPORT

Group View

This report is designed to monitor skill proficiency. It provides detailed information about each student's skill mastery progress organized by module, unit and workspace.

How to use this report:
• Grouping students according to their skill proficiency level
• Identifying skills that need additional support or remediation

SKILL LEVEL

Skill level refers to the student's proficiency level of skills practiced within the workspace, at the time of completion. Students are considered to be proficient in a skill in MATHia when they demonstrate a 95% probability that they understand that skill.

Students Not Mastered refers to the number of students who have completed the workspace and have one or more skills below proficient in the workspace. For each skill, Students Below Proficient refers to the number of students who are not proficient in the skill.
Selecting on each tab allows you to focus on the skill level category breakdown by individual students.

For each skill, a student can be in one of the following categories:

- **Proficient**: The student has a greater than or equal to 95% probability of understanding and correctly executing that skill.

- **Near Proficient**: The student has a 70%–94% probability of understanding and correctly executing that skill.

- **Remediation Suggested**: The student has <70% probability of understanding and correctly executing that skill.

- **In Progress**: The student is currently completing problems that address this skill.

- **Not Started**: The student has not encountered workspaces that address this skill.

In the example above, Dario and Sheridan need Remediation on this skill. If you click on the other tabs, you will see the names of students who are near proficient, proficient and in progress.

Note: Concept Builder workspaces are not included in this report because students are developing new mathematical understandings and skills are not being measured.
SKILLS REPORT

Student View

This report is designed to monitor skill proficiency for an individual student. All of the metrics from the Group Skills Report are the same for the Student Skills Report, except it shows the individual student skill proficiency for each skill within a workspace.

How to use this report:

- Identifying individual skills that need additional support or remediation

In the example above, for the workspace *Writing Direct Variation Equations*, Dario has 3 of 4 skills below proficient.

Use the filter tool to focus on a specific proficiency level for the student.
STANDARDS REPORT

Group View

The Standards Report is designed to provide an easy view of student proficiency on specific standards.

The group view of the Standards Report displays summary-level data for progress and performance on the standards assigned in the assigned content.

When you create a class in MATHia, you have an option to select a Standard Set. You can change the standards assigned to your class in Teacher’s Toolkit.

Selecting a row in the Summary table provides insight into which specific standards fall into each category and the number of students who have attempted them.

The Summary section gives you insight into the progress and performance of the standards assigned to the class.

In the example above, the class has attempted 16 out of 36 standards assigned to the class. Of the 16 standards attempted, 9 of those standards are proficient. In the dark gray box, we can also see the standards which are proficient by the students.
The Details Table shows the status of every standard for every student. You can use this view to easily see trends on how your students are performing.

Selecting a box in the table displays more details about the student's performance towards that standard and their progress.

Since a standard can be addressed in more than one workspace, students often times have more than one opportunity to demonstrate proficiency on that standard. In this example, Dario has two workspaces in Remediation Suggested and two Proficient standards.
The Student View of the Standards Report displays progress and performance data on the standards assigned to the specified student.

In this example, we can see that Dario has attempted 38.9% (14) of the assigned standards. Of the 14 standards that Dario has attempted, 9 standards are proficient, 3 standards are near proficient, and 2 standards are remediation suggested.
The Details Section displays the student's progress and performance grouped by domain. Expand a domain to see the standard performance for each workspace assigned to the standard.

The progress bar gives you insight about the student performance on the workspaces that address the domain. If you expand the domain, you will see each standard assigned to the domain. Each box represents a workspace that addresses the standard and the student's performance on that workspace.

<table>
<thead>
<tr>
<th>DOMAIN</th>
<th>PROGRESS &amp; PERFORMANCE (% of WORKSPACES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.G Geometry</td>
<td></td>
</tr>
<tr>
<td>7.RP Ratios and Proportional Relationships</td>
<td></td>
</tr>
<tr>
<td>7.RPA.2</td>
<td>Not Attempted</td>
</tr>
<tr>
<td>7.RPA.2.b</td>
<td>Proficient</td>
</tr>
<tr>
<td>7.RPA.2.c</td>
<td>Near Proficient</td>
</tr>
<tr>
<td>7.RPA.3</td>
<td>Not Attempted</td>
</tr>
<tr>
<td>7.NS The Number System</td>
<td></td>
</tr>
<tr>
<td>7.EE Expressions and Equations</td>
<td></td>
</tr>
<tr>
<td>HS.A.REI Reasoning with Equations and Inequalities</td>
<td></td>
</tr>
</tbody>
</table>
APLSE REPORT

APLSE Overview

The Adaptive Personalized Learning Score (APLSE) Report is a predictive report that displays class and student progress over time. The APLSE Report takes all aspects of a class or student’s work into consideration and provides each class and student with an APLSE Score.

UNDERSTANDING THE SCORE

The score is based on the amount of work completed, the time taken to complete it, and student performance (including content mastery, hint requests, and errors). Regardless of the date range selected, the APLSE Score and graph displayed will always represent the APLSE Score year to date (out of the total). This is intentionally done to give a full-year picture.

Each class has a total APLSE Score that is determined by sequenced content included in that class.

INTERPRETING THE GRAPHS

The graph is designed to show progress over time and predict where a class or specific student will end up at the end of a school year (with regard to the assigned content). The APLSE graph over time will always display the entire length of the course. When a date range is selected, it will be highlighted. The prediction line shows where a class or specific student will end the year if they continue at the same pace.

A date range is provided to view APLSE Report data in weekly increments (Sunday to Saturday).

The total possible APLSE Score for a class is solely determined by the amount of sequenced content making up the class. The amount of content students need to complete remains the same, regardless of the specified starts and end dates.
**APLSE GRAPH KEY**

The APLSE Graph features a key that identifies the required metrics for the class and students to fall into one of the following categories:

- **Proficient**: Students whose average performance in completed workspaces was above 70 out of 100.
- **Near Proficient**: Students whose average performance in completed workspaces was between 50 and 69.
- **Remediation Suggested**: Students whose average performance in completed workspaces was 50 or less.

**UNDERSTANDING THE CONTENT INCLUDED IN THE APLSE SCORE**

Work completed in unsequenced modules are not included in the APLSE Report.
**APLSE REPORT**

**Group View**

The class view of the APLSE Report provides insight into the current overall progress of the entire class as well as the current projection of year-end performance.

The Student Detail table underneath the graph provides specific metrics for each student, to help identify target students who might require remediation. You can also review incremental APLSE Score growth for each student by viewing the Improvement Score for the selected date range.

Mouse over the On Track, Approaching, and Off-Track bars to determine, based on their year to date work, which individual students make up each category.

The graph predicts that this class is projected to complete the curriculum by June, provided the class continues working at their current pace.

Average APLSE is the average APLSE Score across all of the students in the class. Hover over the colored bar to see the students in each category.

Average Workspaces Completed is the class average of workspaces completed by all students in the class, for the date range selected.

Average Improvement is the average APLSE Score improvement for the class, for the date range selected.

Average Hints and Errors compares the class usage data against historical usage data for the same content, for the date range selected.

Average Pace is the rate at which the class is completing workspaces and is determined by comparing class usage data against historical usage data for the same content, for the date range selected.

Data from 08/15/18 - 05/12/19
APLSE REPORT

Student View

The student view of the APLSE Report displays the student’s current APLSE Score, and whether or not the student is on track to complete the curriculum by the end of the class.

This student’s usage and projection is represented by the blue dotted line, while the gray dotted line represents the class.

Current APLSE is the student’s current APLSE Score. The Class Mean is also provided to determine how the student is performing compared to the class.

Workspaces Completed is the total number of workspaces completed by the student, for the date range selected.

Improvement is the student’s incremental APLSE Score improvement, for the date range selected.

Hints and Errors compares the student’s usage data against historical usage data for the same content, for their workspaces completed for the date range selected.

Pace is the rate at which the student is completing workspaces and is determined by comparing student’s usage data against historical usage data for the same content, for their workspaces completed for the date range selected.

Hover over the graph to view the student’s APLSE Score for any given week.
Section 4: Implementation Tools

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Lab Facilitation Strategies ................................................................. 70
Online Learning Look-Fors ............................................................... 73
Grading Strategies ............................................................ 74
Your First Three Weeks with the Software Solution

Prior to Week One

- Make sure the software is running properly on all student computers.
- Create customized modules to follow the district's content guidelines.
- Establish norms for computer use.
- If necessary, reserve computer lab time.

Week One

- In Teacher's Toolkit, add students to your school, create classes, and assign students to them.
- Introduce students to the software.
- Monitor students as they work through their first units, while encouraging their independence.
- Analyze Teacher's Toolkit Reports.
Week Two

Celebrate student successes based on performance as indicated in Teacher's Toolkit Reports. Conference with any students who didn't meet expectations.

Facilitate student work on software.

Revisit the norms for computer use, if necessary.

Week Three

Celebrate successes, and address any concerns with students.

Discuss, as a class, your students' experiences and the math that they're learning. Review the units of instruction.

Analyze the Teacher's Toolkit Reports and plan for next week.

Discuss, as a class, your students' experiences and the math that they're learning. Review the units of instruction.

Analyze the Teacher's Toolkit Reports and plan for next week.
# Lab Facilitation Strategies

Completed through the collaboration of Carnegie Learning, Inc. and Richmond County Schools.

## Teacher and Student Responsibilities During Lab Time

<table>
<thead>
<tr>
<th>TIME FRAME</th>
<th>STUDENTS</th>
<th>TEACHER</th>
</tr>
</thead>
</table>
| Daily      | • Report any computer issues to the teacher immediately  
• Talk softly only to ask a question or assist another student  
• Use lesson information and interactive examples before asking for assistance  
• Work only on the assigned material  
• Complete Lab Learning Log | • Work through the software as a student (outside of lab time)  
• Actively monitor students in the lab  
• Post Standards in the room/lab  
• Have a meaningful prompt for the Lab Learning Log  
• Read completed Learning Logs  
• Conference with students about their progress in the software using Detailed Student Reports (about 1–2 minutes per student, about 5–6 students per day) |
| Weekly     | • Turn in completed Lab Learning Log on designated day  
• Record time, etc., on Lab Learning Log after conferencing with teacher | • Run Detailed Student Reports to assign grades  
• Run Class APLSE Report and post for students to monitor their progress or create a Lab Chart |

## Math Lab Class Daily Schedule

<table>
<thead>
<tr>
<th>INSTRUCTIONAL FRAMEWORK</th>
<th>STUDENTS’ RESPONSIBILITIES</th>
<th>TEACHER’S RESPONSIBILITIES</th>
</tr>
</thead>
</table>
| Opening                 | • Log on to the computer and log in to the software | • Log in to the Teacher’s Toolkit  
• Monitor students to make sure they are logging in correctly  
• Return Lab Learning Logs  
• Record attendance |
| Work Period             | • 2 days a week  
• Work through assigned units | • Monitor students for:  
• Off-task behavior  
• Errors in the software  
• Conference with students about progress in the software  
• Discuss time/problems solved/etc.  
• Share reports with students weekly or bi-weekly |
| Closing                 | • Write in Lab Learning Logs  
• Use electronic versions of Lab Learning Log | • Determine what you want students to complete in the Lab Learning Log  
• Read Lab Learning Logs to see where students are, what they are thinking, and what kind of progress they are making |
## SAMPLE MATH LAB LEARNING LOG

Name ___________________________  Beginning Date ______________

<table>
<thead>
<tr>
<th>DAY OF WEEK</th>
<th>WHAT MATH DID YOU DO TODAY?</th>
<th>CURRENT WORKSPACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SAMPLE MATH LAB LEARNING LOG

Name ______________________________

**BRAGGING RIGHTS (WHAT ARE YOU PROUD OF THIS WEEK?)**

**STICKING POINTS (WHAT ARE YOU STRUGGLING WITH THIS WEEK?)**

**TEACHER’S CHOICE PROMPT:**

**PROGRESS MADE LAST WEEK:**

Time Spent: __________________________

Workspaces Completed: ________ Problems Completed: ________

Number of Step by Step Used: ________ Number of Skills Mastered: ________

Average Number of Hints Per Problem: __________________________

**GRADE SHEET (TEACHER USE ONLY)**

Time/Participation (10%): ______ /3 (in hours)

Problems Completed (10%): ______ / ______

Workspaces Completed (10%): ______ /3

Mastered Skills (60%): ______ / ______

Lab Learning Log (10%): ______ /10

Grade: __________________________

Additional samples can be found at resources.carnegielearning.com
Online Learning Look-Fors

**THE TECHNOLOGY**

- Gives students control over time, place, path, pace
- Differentiates to create a personalized learning path for each student
- Provides opportunities for students to self-monitor and self-assess
- Connects to the in-person, brick-and-mortar learning
- Assesses student understanding

**THE TEACHER**

- Communicates usage and/or progress goals with students
- Has clear and consistent routines in place for online learning time
- Uses an established method for celebrating student success
- Poses effective questions to help students make sense of the mathematics and unravel misconceptions
- Interacts with students while they are working and proactively addresses student needs
- Fosters student independence
- Models/encourages self-directed learning
- Monitors student progress
- Provides a flexible learning environment

**THE STUDENTS**

- Take responsibility for their own learning
- Have little need for teacher direction/clarification
- Actively engage with the online learning tool
- Make sense of problems and persevere in solving them
- Collaborate with their peers
- Ask each other questions
- Hold each other accountable
- Monitor their progress
- Assess their own understanding

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**NOTES:**

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**NOTES:**

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**NOTES:**
Grading Strategies

Although it’s best for every teacher to develop their own method for grading the software based on their specific classes and school protocols, here are some helpful suggestions for getting started.

OPTION 1: SETTING BENCHMARKS

In this option, teachers set standards for what they want students to accomplish in a given time period. The number of units or workspaces that students can accomplish might depend on access to computers, length of class period, or other factors.

Keep in mind:

• Benchmarks can be set for any time period: two weeks, four weeks, nine weeks, etc.
• Students can access the software remotely at http://online.carnegielearning.com to catch up or accelerate, if needed.
• Benchmarks can be set individually based on special student needs or circumstances.
• Beyond the first benchmark, expectations of individual students can be adjusted to respond to student performance.
• Once they understand the system, students can set benchmarks themselves.
• It is much easier to lower high expectations than to increase low expectations; set the standards high!

Some teachers set time benchmarks in addition to unit/workspace benchmarks. This encourages students to continue working even if they’ve completed all of their assigned units, and rewards students for their time commitment.

REPORT NEEDED: Any report could be used for this method, depending on what benchmarks the teacher sets for each student.
OPTION 2: ASSIGNING POINTS OBJECTIVELY

This grading model assigns points based on how much work students have completed and how much time and effort they have invested.

Sample metrics for awarding points:
• for each problem completed
• for each hour worked
• for each workspace completed
• for APLSE score increases
• for improvement score "points"
• for green pace or green hints/errors

REPORT NEEDED: The Session Report (class summary) will give you the data for the first three bullets. The APLSE report will give you the data for the last three bullets. In both of these reports, you can select a start and end date to run a report for a specific time period.

Once points are determined for each student in a class, use the data to determine grades. You can assign the highest point total 100% and use that total to determine percentage scores for remaining students. You may want to consider eliminating extreme outlier point values before setting the 100% score.

OPTION 3: COMPLETING A DAILY SELF-ASSESSMENT

Students will self-assess daily and assign a grade for their work. Each student is given a small sheet of paper with space for their name, unit/workspace starting, unit/workspace finishing, and tally marks to track how many problems they complete in this class time. Have the students fill in their information at the beginning of class and tally their progress during class. At the end of the class, students will give themselves a grade out of 5 points and write a sentence of evidence for this grade. The teacher can modify the grade as needed. The advantages to this method are that there is immediate feedback for the students each day, and that they are self-monitoring and assessing their own progress. The disadvantage is that it is only focused on progress, not mastered skills. It might be ideal to combine this with another method, or use it at the beginning of the year to establish a routine and then phase it out.

REPORT NEEDED: None (although teachers can double check a student's tally marks with by running the Session Report (class summary) for just that day/period).
OPTION 4: USING A RUBRIC

While the APLSE Score, by design, is built to be a rubric, teachers may be more comfortable creating a rubric of their own. Below is a SAMPLE rubric. Please note that each teacher should determine the performance indicators that are most important to them for the first column as well as the appropriate benchmark scores (based on average student data) for their batch of students.

Sample four-session grading rubric:

<table>
<thead>
<tr>
<th>PROBLEMS</th>
<th>20</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>the student has completed</td>
<td>at least 40 problems</td>
<td>at least 30 problems</td>
<td>at least 20 problems</td>
<td>at least 10 problems</td>
<td>less than 10 problems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WORKSPACES</th>
<th>20</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>the student has completed</td>
<td>at least 8 workspaces</td>
<td>at least 6 workspaces</td>
<td>at least 4 workspaces</td>
<td>at least 3 workspaces</td>
<td>less than 3 workspaces</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME</th>
<th>20</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>the student has spent</td>
<td>at least 150 min. in the problems</td>
<td>at least 120 min. in the problems</td>
<td>at least 90 min. in the problems</td>
<td>at least 45 min. in the problems</td>
<td>less than 45 min. in the problems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BEHAVIOR</th>
<th>20</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>the student is</td>
<td>never off task or a disruption in the lab</td>
<td>occasionally off task or a disruption in the lab</td>
<td>often off task or a disruption in the lab</td>
<td>almost always off task or a disruption in the lab</td>
<td>always off task or a disruption in the lab</td>
</tr>
</tbody>
</table>

REPORT NEEDED: Session Report (Class Summary)

Other potential performance indicators (that could be used to create a rubric) include ...
- Improvement Score (in the APLSE report)
- Performance Scores (in the Student Detailed Report)
- Average Hints/Errors (color is located on the APLSE report, data is in the Session and Student Detail Reports)