

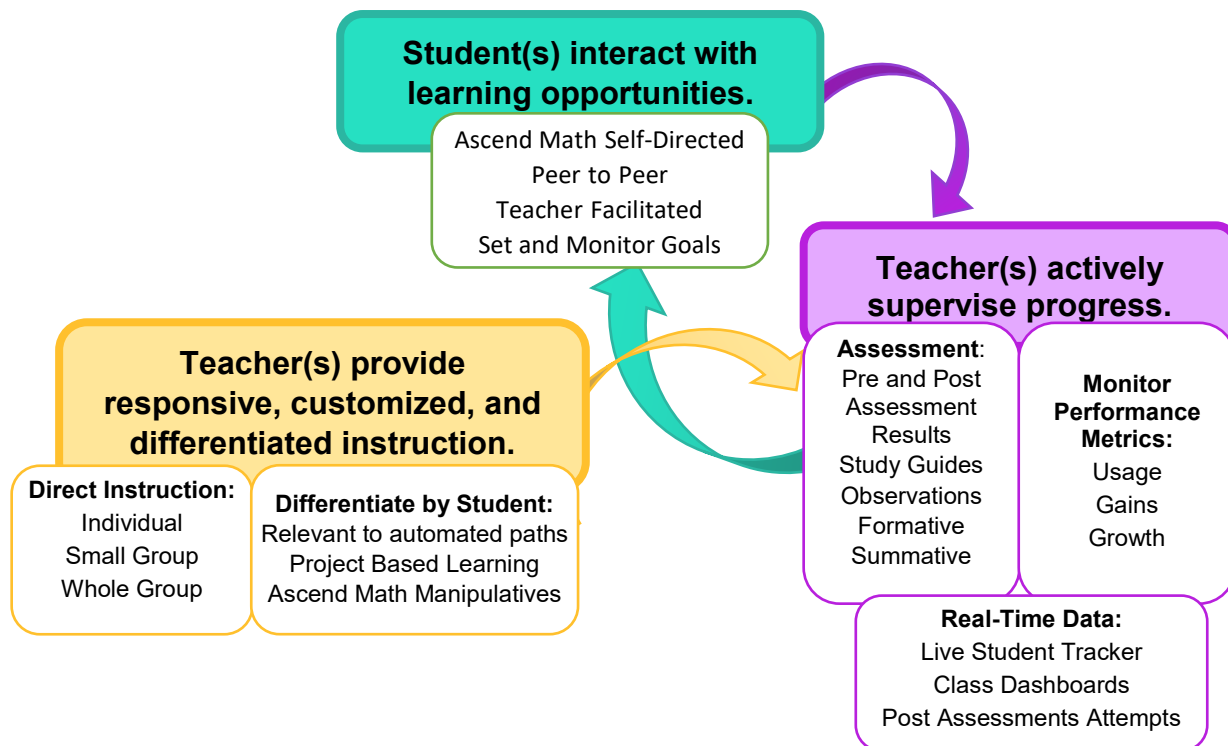
## **Personalized Learning Model – Ascend Math**

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## Active Rotation Model

A personalized learning model may be viewed as an active rotation model which supports a concept that assessments are utilized **for** directing learning not simply assessments **of** learning. The purple and yellow zones in the diagram below illustrates the interaction between teaching and activities while students are in control of their own pace and path of learning. In all cases there is data available to improve learning outcomes rather than simply prove these outcomes.

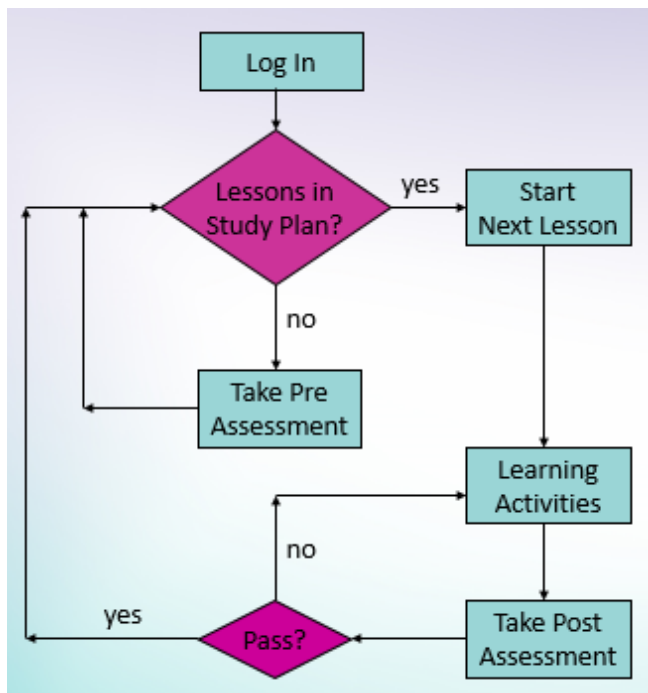


In a personalized learning environment, the learners themselves are responsible for determining one of the following: time, place, path and/or pace of learning.

## Ascend Math Architecture

At the initial login, Ascend Math presents students with an adaptive Level Recommendation Assessment or Screener. Assessment items are dictated by grade level according to rigorous state standards. During the assessment, each question varies in difficulty based on student response. At the conclusion, students will begin in Ascend Math at the functional level recommended by Ascend Math as outlined by the state standards. By identifying the starting level of each student, students working on Ascend Math begin to see success immediately and are highly motivated to succeed. Students are directly responsible for determining their starting place in Ascend Math based on their performance of the Level Recommendation Assessment.

Once placed, students automatically build their own path of study based on ongoing and continual assessment results. Ascend Math automatically differentiates instruction and assigns each student an individual education path based on individual needs.



Ascend Math's architecture is as follows:

Ascend Math's study plans are divided into manageable units of study. For each unit, students receive a pre-assessment. Any learning objective in which a student shows proficiency is automatically removed from the study plan. A student is then directed to the first lesson in sequence in the study plan. The student must show mastery for a learning objective before moving on to the next lesson in sequence in the study plan. Once the student successfully completes all the learning activities in a unit, the student moves on to the pre-assessment in the next unit in the study plan. Since students must successfully complete learning objectives before they are automatically directed to the next activity in their path, students have direct responsibility over the pace and path of learning.

If a student shows mastery on a pre assessment, then the learning objective is automatically removed from the student's study plan; therefore the student is only directed to areas in which he needs improvement. Assessments are presented continually throughout the learning path so teachers and administrators can be sure that students' learning plans are personalized and they are always working on what they need next in a logical math sequence. Furthermore, successful completion of post assessments ensure that students have a full understanding of foundational material before they move on to the next learning objective.

## Pre Assessments differentiate Each Student's Plan

Below is a representative sample of pre-assessment results. Note the students all working on different skill gaps within each level. Ascend addresses competencies at the objective level.

Legend:

|  |  |
|--|--|
| Student has not shown proficiency on pre assessment – becomes part of student's individual, logically sequenced study plan | Student has shown proficiency on pre assessment – not part of student's study plan |
|--|--|

Class Name: Mr. Coffman's 1st Hour

### Level 3

|                    | 1017   | E1.02    | E1.03       | E2.01                  | E2.03      | E2.05             |
|--------------------|--|----------|-------------|------------------------|------------|-------------------|
| Student Name       | Rounding Whole Numbers Using a Number Line Diagram | Addition | Subtraction | Addition & Subtraction | Sums to 18 | Subtraction Facts |
| Paola Cleary       |  |          |             |                        |            |                   |
| Erubiel Davila Ruz |  |          |             |                        |            |                   |
| Donald, George     |  |          |             |                        |            |                   |
| Roman Mina         |  |          |             |                        |            |                   |

### Level 4

|                       | 2115                                   | 1061   | 2116.1   | 2220                                  | 2063                | 2116.2   |
|-----------------------|--|--|--|---------------------------------------|---------------------|--|
| Student Name          | Interpreting Multiplication as Scaling | Order of Operations: Parentheses, Brackets, and Braces | Modeling Whole Numbers Divided by Unit Fractions | Line Plots to Display Fractional Data | Comparing Fractions | Interpret a Fraction as Division of the Numerator by the Denominator |
| Justin Pitt           |  |  |  |                                       |                     |  |
| Wesley Vazquez        |  |  |  |                                       |                     |  |
| Eliza Seals           |  |  |  |                                       |                     |  |
| Irma Clavijero Rivera |  |  |  |                                       |                     |  |
| Martin Ornelas        |  |  |  |                                       |                     |  |

### Level 5

|                | 2117  | 2221   | 2082  | 2083   | 5222       | 6288  |
|----------------|---|--|---|--|------------|---|
| Student Name   | Multiplication, Using Area Models with Fractional Sides | Multiplying a Fraction by a Whole Number Using Area Models | Adding and Subtracting Fractions with Unlike Denominators | Modeling Addition and Subtraction of Fractions I | Trapezoids | Plotting Ratio Tables on the Coordinate Plane |
| Juaquine Brown |   |  |   |  |            |   |
| Allen, Robert  |   |  |   |  |            |   |
| Jones, Rosa    |   |  |   |  |            |   |
| Moore, Tom     |   |  |   |  |            |   |
| Smiley, Gary   |   |  |   |  |            |   |
| Smith, Rosa    |   |  |   |  |            |   |

## Learning Path

**The learning path is clearly defined and connected. That is, there is an integrated learning experience that is not disjointed, obtuse, or non-sequential.**

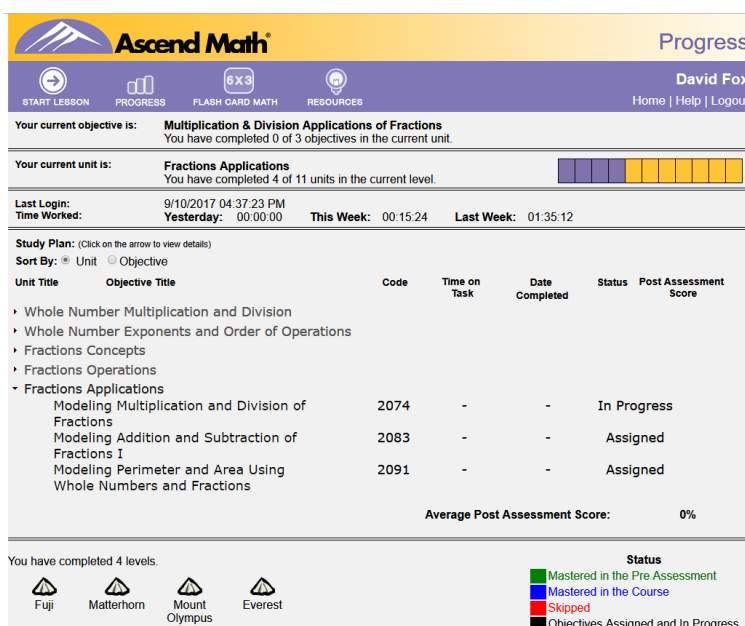
Ascend Math directs students to learning activities based on assessment results. Thus in Ascend Math each student's study plan is defined automatically and continually. A sequential structure is present throughout math. Ascend Math utilizes this by teaching subjects in a logical sequence, e.g. a student whose skill set does not include multiplication of fractions, must first master

multiplication of whole numbers before he has the ability to successfully master fraction-multiplication. As students achieve mastery in math they become better problem solvers on a broader scale. Math prepares students for critical thinking in the real world in preparation for the rest of their lives. Ascend offers critical thinking at all levels, allowing creation of meaningful connections within mathematics. Please see exhibit XX for a sample of Ascend content.

## Progress – From the Students Point of View

Students track their own progress by viewing the student progress page, which is available on each student's home screen by clicking the "reports" button. The student can see how much time he spent mastering each objective, as well as how much time he spent total working in Ascend. The student progress page helps them manage their time by providing time worked yesterday, this week and the previous week.

Students see the objectives they've learned with date completed and time spent on each objective. Each student progresses quickly and efficiently at his or her own pace. Students take a post assessment for each learning objective that Ascend Math automatically prescribed in their study plan. Successful completion of post assessments ensure that students have a full understanding of foundational material before they move on to the next learning objective.



**Ascend Math** Progress

START LESSON PROGRESS 6X3 RESOURCES David Fox Home | Help | Logout

Your current objective is: **Multiplication & Division Applications of Fractions**  
You have completed 0 of 3 objectives in the current unit.





Your current unit is: **Fractions Applications**  
You have completed 4 of 11 units in the current level.

Last Login: 9/10/2017 04:37:23 PM  
Time Worked: Yesterday: 00:00:00 This Week: 00:15:24 Last Week: 01:35:12

Study Plan: (Click on the arrow to view details)  
Sort By: Unit Objective

| Unit Title                                       | Objective Title   | Code | Time on Task | Date Completed | Status      | Post Assessment Score |
|--|---|------|--------------|----------------|-------------|-----------------------|
| ▸ Whole Number Multiplication and Division       |   |      |              |                |             |                       |
| ▸ Whole Number Exponents and Order of Operations |   |      |              |                |             |                       |
| ▸ Fractions Concepts                             |   |      |              |                |             |                       |
| ▸ Fractions Operations                           |   |      |              |                |             |                       |
| ▾ Fractions Applications                         |   |      |              |                |             |                       |
|  | Modeling Multiplication and Division of Fractions             | 2074 | -            | -              | In Progress |                       |
|  | Modeling Addition and Subtraction of Fractions I              | 2083 | -            | -              | Assigned    |                       |
|  | Modeling Perimeter and Area Using Whole Numbers and Fractions | 2091 | -            | -              | Assigned    |                       |
| Average Post Assessment Score:                   |   |      |              |                |             | 0%                    |

You have completed 4 levels.

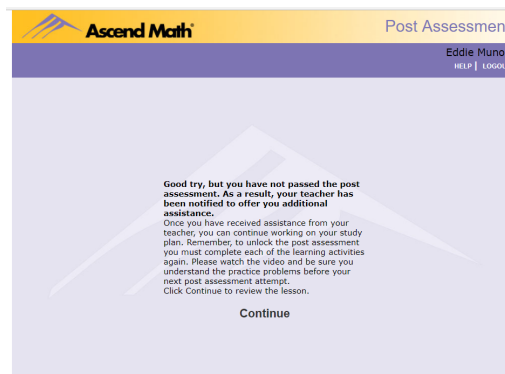
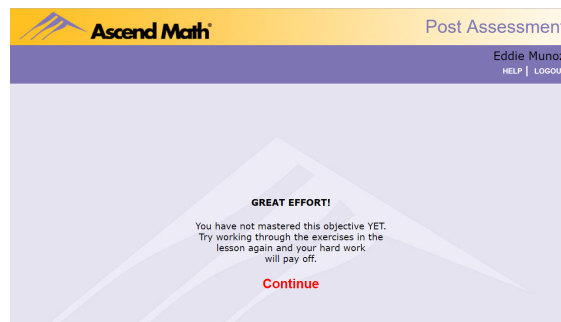
 Fuji
  Matterhorn
  Mount Olympus
  Everest

**Status**

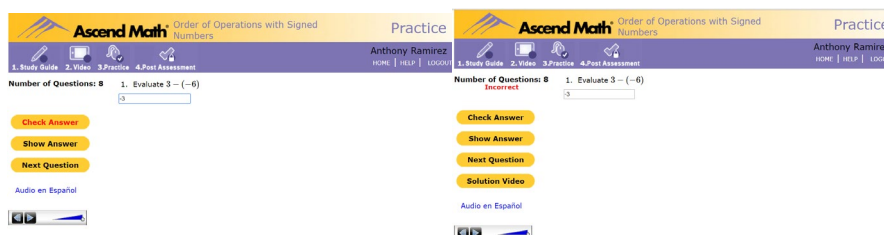
- Mastered in the Pre Assessment
- Mastered in the Course
- Skipped
- Objectives Assigned and In Progress

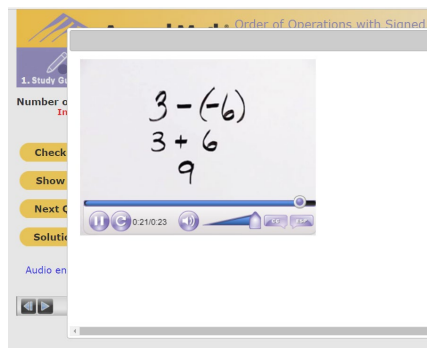
## Automated Re-Teaching -Post Assessments

If the post assessment is not passed successfully, Ascend facilitates re-teaching and remediation. The student is redirected to the appropriate virtual teaching materials.

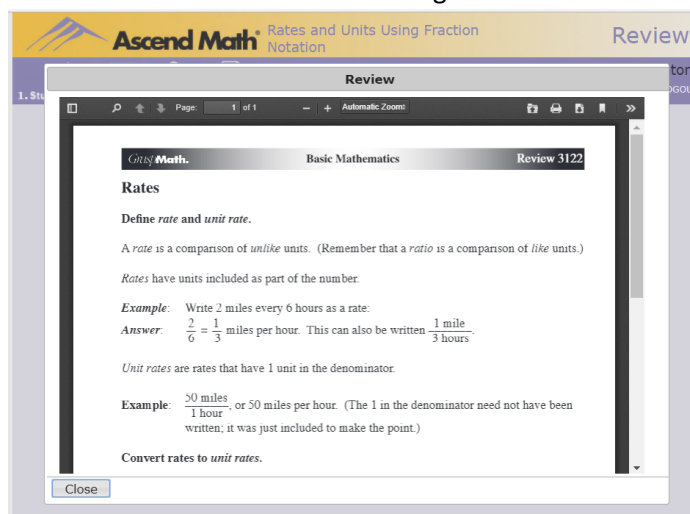


Immediate re-teaching is available when a student has trouble solving a practice exercise. Students can check their answer and watch a video explaining the solution for that specific exercise with the click of a button.

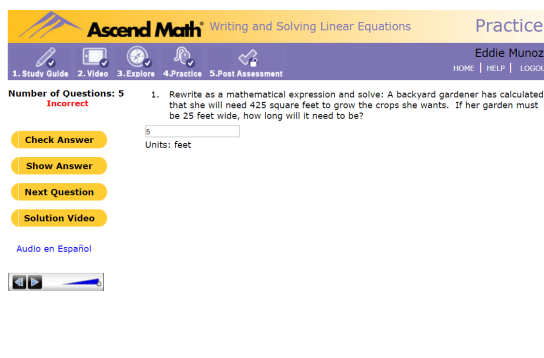


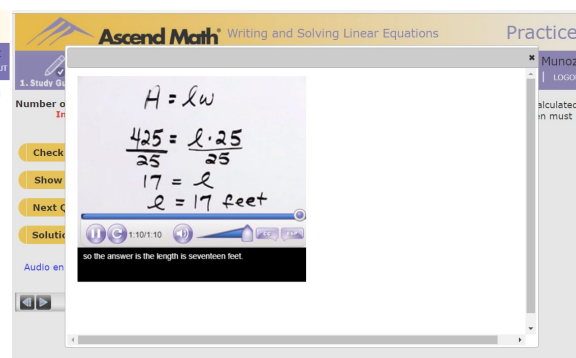


Additional review sheet modules unlock for the student to examine. E.g.:



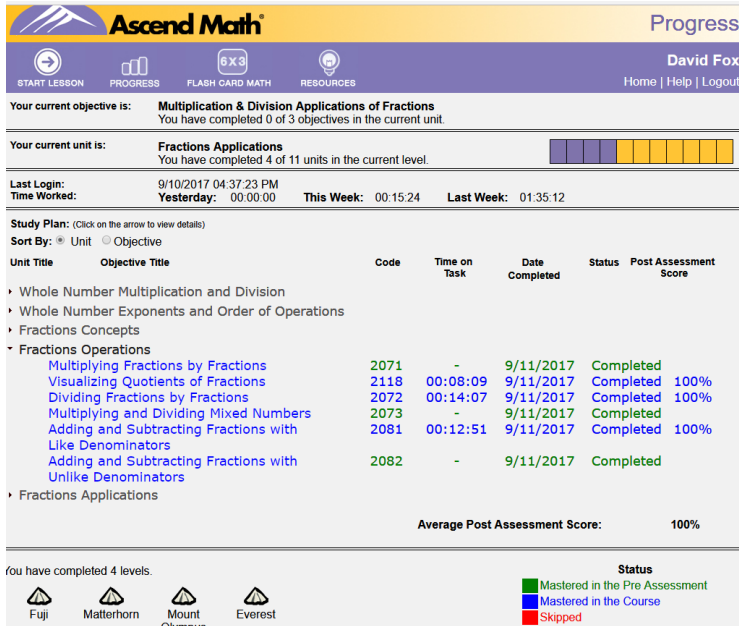
## Interactive Practice with Immediate Correction and Solution Videos







Students can review previously mastered objectives from their progress page:



**Ascend Math®** Progress

START LESSON PROGRESS FLASH CARD MATH RESOURCES David Fox  
Home | Help | Logout

**Your current objective is:** Multiplication & Division Applications of Fractions  
You have completed 0 of 3 objectives in the current unit.





**Your current unit is:** Fractions Applications  
You have completed 4 of 11 units in the current level.




Last Login: 9/10/2017 04:37:23 PM  
Time Worked: Yesterday: 00:00:00 This Week: 00:15:24 Last Week: 01:35:12

Study Plan: (Click on the arrow to view details)  
Sort By: Unit Objective

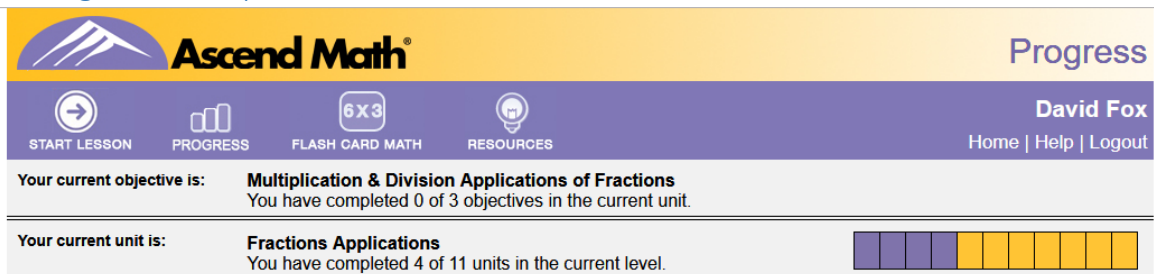
| Unit Title  | Objective Title | Code | Time on Task | Date Completed | Status | Post Assessment Score |
|---|-----------------|------|--------------|----------------|--------|-----------------------|
| <ul style="list-style-type: none"> <li>Whole Number Multiplication and Division</li> <li>Whole Number Exponents and Order of Operations</li> <li>Fractions Concepts</li> <li>Fractions Operations <ul style="list-style-type: none"> <li>Multiplying Fractions by Fractions 2071 - 9/11/2017 Completed</li> <li>Visualizing Quotients of Fractions 2118 00:08:09 9/11/2017 Completed 100%</li> <li>Dividing Fractions by Fractions 2072 00:14:07 9/11/2017 Completed 100%</li> <li>Multiplying and Dividing Mixed Numbers 2073 - 9/11/2017 Completed</li> <li>Adding and Subtracting Fractions with Like Denominators 2081 00:12:51 9/11/2017 Completed 100%</li> <li>Adding and Subtracting Fractions with Unlike Denominators 2082 - 9/11/2017 Completed</li> </ul> </li> <li>Fractions Applications</li> </ul> |                 |      |              |                |        |                       |
| Average Post Assessment Score:  |                 |      |              |                |        | 100%                  |

You have completed 4 levels.

 Fuji
 Matterhorn
 Mount Everest
 Everest

**Status**  
 Mastered in the Pre Assessment  
 Mastered in the Course  
 Skipped

The unit progress bar gives the student an overview of work completed and work remaining to be completed.



**Ascend Math®** Progress

START LESSON PROGRESS FLASH CARD MATH RESOURCES David Fox  
Home | Help | Logout

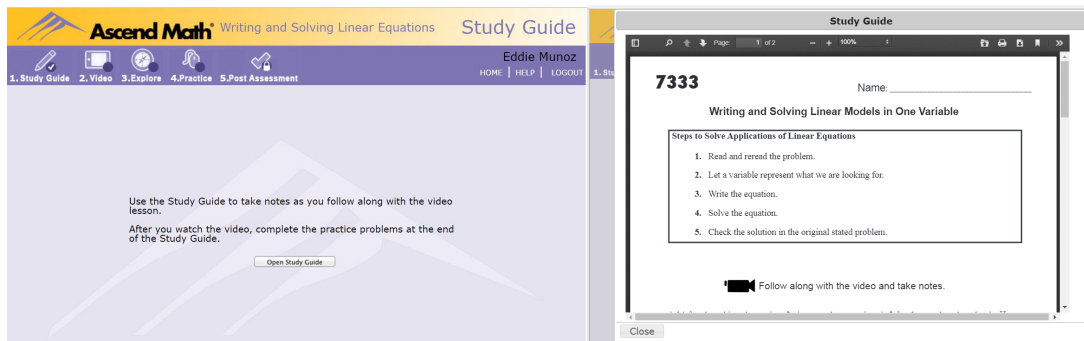
**Your current objective is:** Multiplication & Division Applications of Fractions  
You have completed 0 of 3 objectives in the current unit.

**Your current unit is:** Fractions Applications  
You have completed 4 of 11 units in the current level.

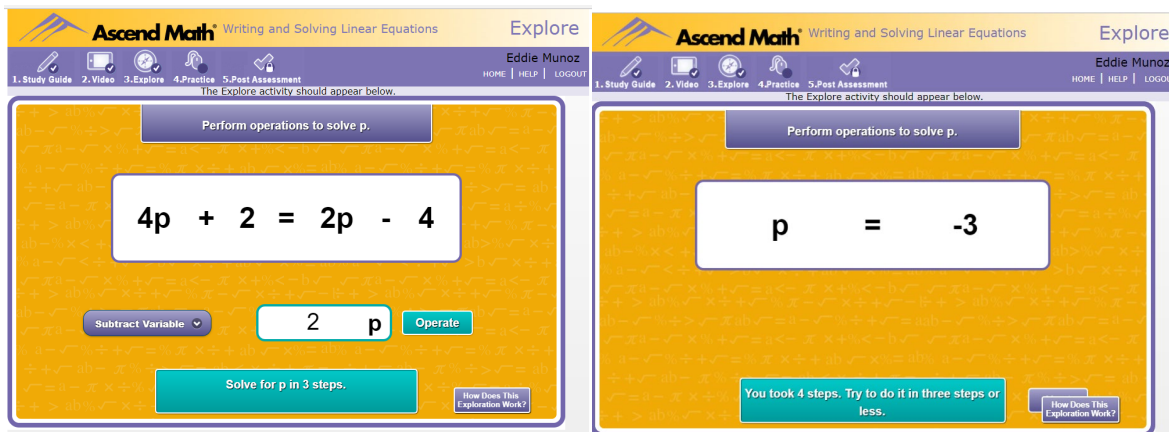
## Multi-Modal Environment

Students explore the multi modal environment of Ascend available for each objective. Ascend Math is more than an online workbook. Ascend Math Learning Objectives contain video instruction, interactive practice, interactive explore features and printable study guides for every learning objective.

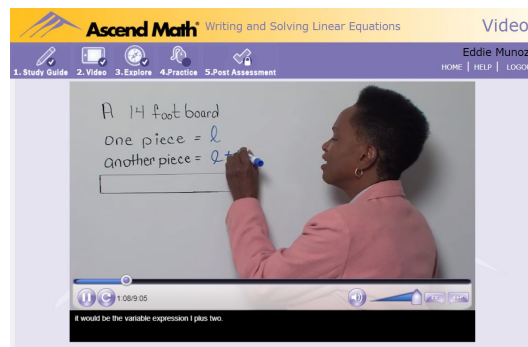
### Printable Study Guides:



### Interactive Explore Feature:



### Video Instruction:



## Actively Supervised Learning

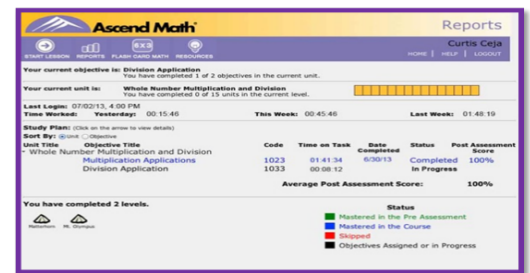
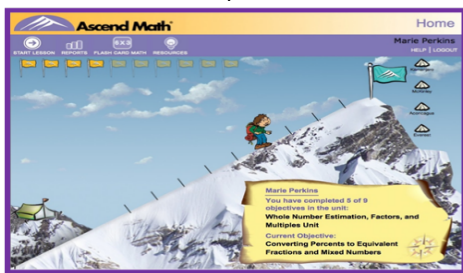
The learning is actively supervised: This means that learners are regularly assessed, engaged in the multi-media environment, and have opportunities for re-teaching and remediation by educators when skills are clearly not developing as projected.

The key to successful personalized learning lies in weaving together direct teacher instruction with the computer based instruction. Ascend empowers teachers to do so by offering at-a-glance reports allowing for active supervision.

### Progress from the Teachers Point of View

#### 1. Activity Completion Report

The Activity Completion Report shows the date of last login as well as total hours worked within user defined date ranges. Time spent in conjunction with the number of objectives completed gives an overview of progression of student accomplishments.



#### Activity Completion Report

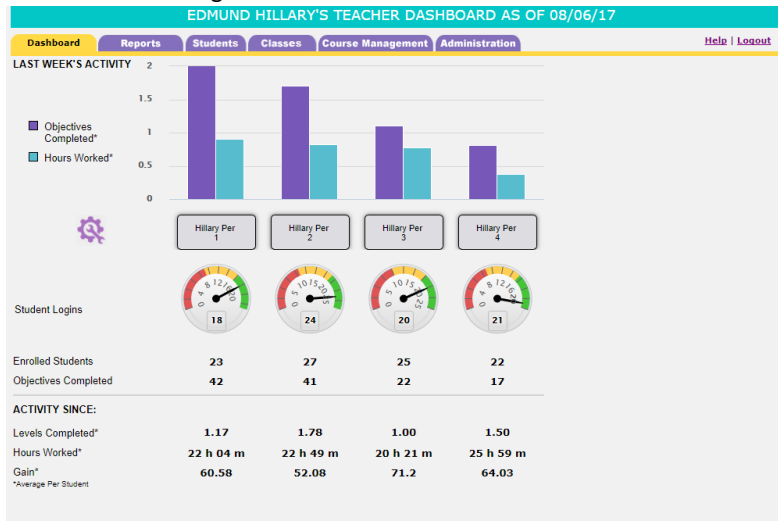
|             |                 |
|-------------|-----------------|
| Teacher     | Cox, Harold     |
| Class       | 8thGradeMath    |
| Time Frame  | Last 30 Days    |
| Start Date  | 06/03/2013      |
| End Date    | 06/10/2013      |
| Report Date | 6/11/2013 14:16 |

| Name            | Actual Grade | Level | Objectives Completed on Pre Assessment | Objectives Completed on Post Assessment | Total Hours Worked | Last Login Date |
|-----------------|--------------|-------|--|---|--------------------|-----------------|
| Garcia, Ryan    | 8            | 7     | 4                                      | 2                                       | 02:07:26           | 06/03/2013      |
| Holloway, Brett | 8            | 4     | 4                                      | 6                                       | 01:39:27           | 06/03/2013      |
| Davis, Derek    | 8            | 4     | 7                                      | 6                                       | 02:10:19           | 06/03/2013      |
| Willis, Annette | 8            | 3     | 4                                      | 6                                       | 01:50:20           | 06/03/2013      |
| Flores, Ignacio | 8            | 5     | 3                                      | 3                                       | 01:31:12           | 06/04/2013      |

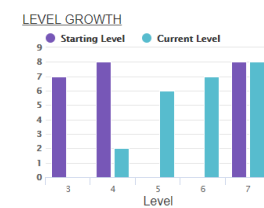
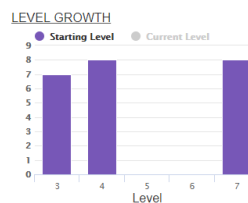
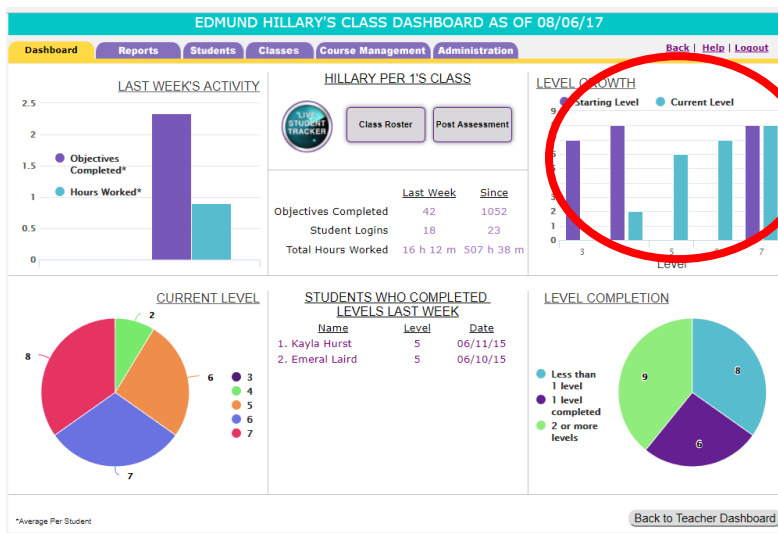
## 2. Teacher Dashboards

Teacher Dashboards display an over view for varying levels of details:

For all classes at-a-glance:



For a one class snapshot



The teacher Dashboard is one click away from the Live Student Tracker described below.

### 3. Real Time Data to Facilitate Teaching and Identify Opportunities for Immediate Intervention- Live Student Tracker

The Live Student Tracker shows the number of post assessment attempts, thereby highlighting a student who is struggling on one objective, as well as a group of students struggling on a similar topic. Ascend helps develop momentum in blended learning by giving interactive immediate feedback and empowering teachers to find the ideal moments and opportunities to re-teach. Ascend offers the tools for teaching or re-teaching in a small group environment.

*This real time information provides a powerful tool to allow teachers to intervene immediately as necessary.*

| MR. JHONES' 3RD PERIOD LIVE STUDENT TRACKER |       |  |  |         |          |                  |          |  |
|---|-------|--|--|---------|----------|------------------|----------|--|
| STUDENT                                     | LEVEL | UNIT   | OBJECTIVE  | OBJ #   | ATTEMPTS | LAST ATTEMPT     | NEXT OBJ |  |
| Allen, Kristy                               | 5     | Whole Number Exponents and Order of Operations | Introduction to Exponents  | 1024    | 1        | 6/15/15 02:10 PM | 1034     |  |
| Alvarez, Juan                               | 4     | Metric and Customary Systems of Measurement    | Length, Capacity and Weight                                      | 4171    | 6        | 6/19/15 02:38 PM | —        |  |
| Beckenmier, Andreas                         | 6     | Decimal Operations                             | Converting Decimals to Fractions                                 | 3101    | 3        | 6/18/15 01:40 PM | 3102     |  |
| Blekr, Bogdan                               | 7     | Percent Applications                           | Solving Percent Equations  | 4145    | 7        | 6/17/15 02:30 PM | 4151     |  |
| Erubusansatifa, Nailah                      | 6     | Ratio and Proportion                           | Rates and Units Using Fraction Notation                          | 3122    | 2        | 6/17/15 02:15 PM | New Unit |  |
| Franque, Gisselle                           | 4     | Fractions Concepts                             | Line Plots to Display Fractional Data                            | 2220    | 0        | —                | 2221     |  |
| Hassan, Amir                                | 3     | Whole number Addition and Subtraction          | Adding Whole Numbers in Columns                                  | 1014    | 5        | 6/17/15 02:30 PM | 1015     |  |
| Hasseer, Fatima                             | 5     | Fraction Concepts                              | Introduction to Fractions  | 2061    | 8        | 6/15/15 01:55 PM | 2062     |  |
| Jajovic, Mikaela                            | 3     | Whole Number Multiplication and Division       | Properties of Multiplication with Whole Numbers                  | 1021    | 4        | 6/19/15 01:38 PM | 1022     |  |
| Meier, Otto                                 | 4     | Geometry Concepts                              | Symmetry   | 5232    | 1        | 6/19/15 02:09 PM | —        |  |
| Michaels, Leon                              | 7     | Percent Applications                           | Solving Percent Equations  | 4145    | 0        | —                | 4151     |  |
| Newman, Charlie                             | 5     | Fractions Operations                           | Multiplying Fractions by Fractions                               | 2071    | 3        | 6/17/15 02:43 PM | 2117     |  |
| O'Brien, Odell                              | 2     | Whole Numbers                                  | Skip Counting by 2s  | E2.04.C | 1        | 6/17/15 02:17 PM | E.204.D  |  |
| O'Conner, Fiona                             | 5     | Fractions Applications                         | Modeling Multiplication and Division of Fractions                | 2074    | 7        | 6/16/15 02:30 PM | 2084     |  |
| Recinos, Sara                               | 2     | Elementary Addition and Subtraction            | 3 - Digit Addition   | E2.07.C | 1        | 6/15/15 02:00 PM | E.203.A  |  |
| Sabatini, Francisco                         | 4     | Statistics and Probability                     | Reading and Interpreting Pictographs, Bar Graphs and Line Graphs | 6261    | 0        | —                | New Unit |  |

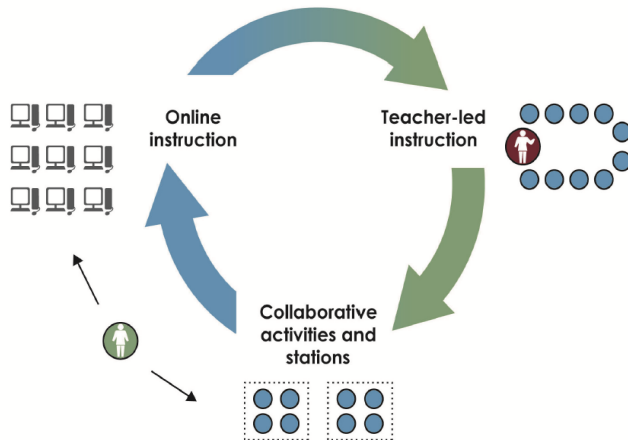
**Attempts**

- One or Two Attempts
- Three to Five Attempts
- Six or more Attempts

### Group Instructional Models

Ascend Math Provides tools for teachers to effectively group students to differentiate instruction for whole and small group instruction utilizing a combination of digital, print based and project based learning resources. One popular model is a station rotation model as illustrated below.

### Station Rotation Model



### Tool to Guide Group Instruction – Live Student Tracker

Ascend Math's Live Student Tracker provides real time information for what is happening in a class at any point in time. For example, see below, teachers may sort the Live Student Tracker by the student's current Unit, the teacher notices that 5 of her students are working on objectives in the unit Elementary Division. The teacher may now choose to follow up with small group instruction.

| STUDENT            | LEVEL | UNIT                                     | OBJECTIVE                                 | Obj.#   | ATTEMPTS | LAST ATTEMPT     | NEXT OBJ  |
|--------------------|-------|--|---|---------|----------|------------------|-----------|
| Stricker, Cody     | 2     | Addition and Subtraction                 | Subtraction Sentences, Missing Numbers    | E2.01.D | 100%     | 9/12/17 11:08 AM | Next Unit |
| Bisby, Kaden       | 2     | Elementary Addition                      | 3-Digit Addition, 3-Digit Answers         | E2.07.C | 100%     | 9/12/17 11:05 AM | Next Unit |
| Bonfert, Sophia    | 3     | Elementary Addition and Subtraction Unit | 2&3 Digit Subtraction                     | E2.08   | 100%     | 9/12/17 11:12 AM | Next Unit |
| Keivens, Logan     | 3     | Elementary Division                      | Foundations of Division                   | E5.21   | 25%      | 9/12/17 11:12 AM | Next Unit |
| Mattimore, Donovan | 4     | Elementary Division                      | Foundations of Division Using Area Models | 1036    | 100%     | 9/12/17 11:07 AM | E3.08     |
| Mercer, Mackenzie  | 4     | Elementary Division                      | Foundations of Division Using Area Models | 1036    | 100%     | 9/11/17 02:54 PM | E3.07     |
| Sintobin, Dani     | 4     | Elementary Division                      | Foundations of Division Using Area Models | 1036    | 100%     | 9/12/17 11:06 AM | E3.07     |
| Leonard, Kiyah     | 4     | Elementary Division Unit                 | Understanding Division                    | E3.07   | 100%     | 9/12/17 10:59 AM | E3.10     |
| Cone, Parker       | 4     | Elementary Measurement Unit              | Metric Measurement                        | E4.03   | 100%     | 9/12/17 10:51 AM | Next Unit |
| Rose, Nevaeh       | 4     | Elementary Measurement Unit              | Metric Measurement                        | E4.03   | 100%     | 9/12/17 10:47 AM | Next Unit |

[Back To Class Dashboard](#)

This will allow teachers to address each learner by planning tasks that are interesting, relevant, and powerful because Ascend Math resources provide information on where each student is in knowledge, skill, and understanding and where he or she needs to move. Teachers may easily differentiate instruction to facilitate that goal and utilize a rotation model or engage in one to one instruction.



## Teacher Guides

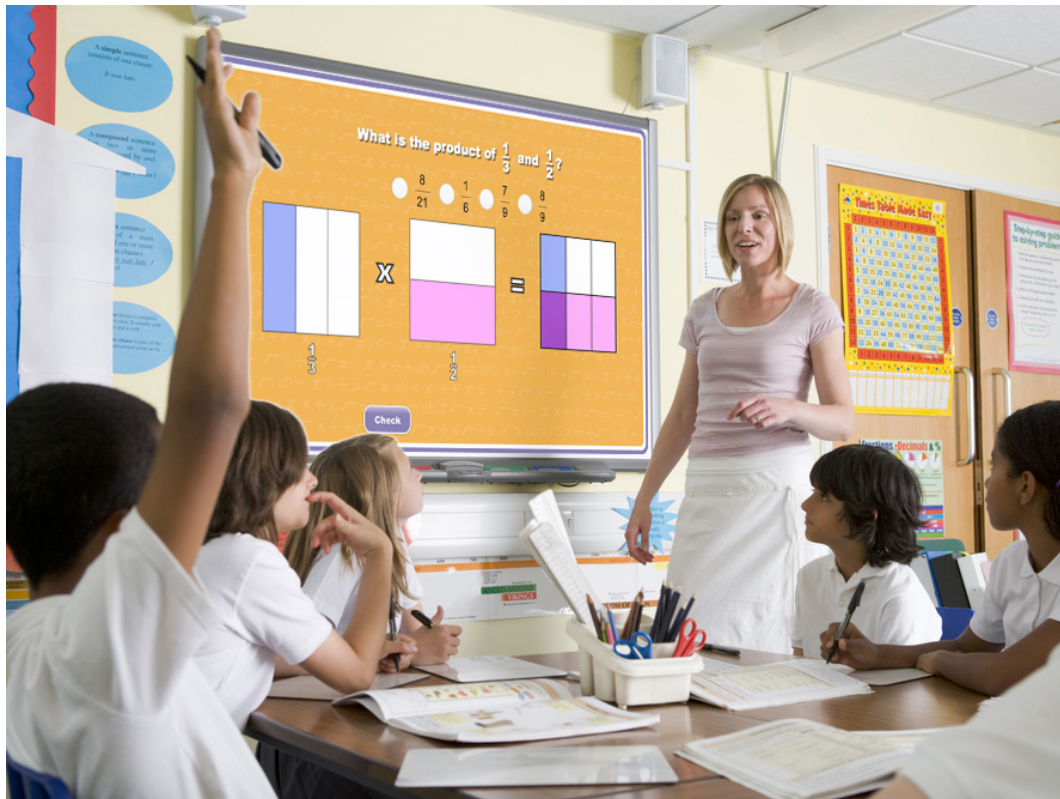
Resources include Teacher Guides “Ascend Math Compasses” that provide lesson specific guidance for small group instruction and project based learning (hands-on, technology simulations, guided practice). Ascend Math Compasses also contain math vocabulary, strategies for developing math conceptual knowledge and questions to check for understanding that will encourage students to speak about math

| Overview, Purpose, and Objectives   |  |
|---|--|
| The purpose of this lesson is to build student knowledge on comparing whole number quotients of whole numbers.                            |  |
| <p><b>Prior knowledge needed</b><br/>The student should know: "division," "dividend," "divisor," "quotient," "array," "equal groups."</p> |  |
| <b>Lesson Objectives</b>  | <p>The lesson activity provides practice for dividing whole numbers dividends and whole number divisors. The activity begins with an interactive array model that compares the quotient and remainder (if applicable) of the division number sentence. The answer for division equation will appear to the right of the interactive array model. There is also a brief explanation of how many groups the quotient can be divided into as well as how many items in each group. The quotient of the division equation can be changed by moving the green circle up and down the interactive array model. The green number represents the quotient and the blue number represents the divisor. As the green circle is moved up and down, the blue area will change to represent the corresponding array to the division equation. The red area represents the remainder of a division equation. To eliminate a remainder in the answer, manipulate the green circle so that there are not any red blocks. Type a new dividend in the white box to use the "increment and decrease buttons" to begin a new equation.</p> |
| <b>Check for Understanding</b>  | To check for student understanding: What math operation are we using? What is the dividend and divisor? Name the whole number quotient. How many groups can the dividend be equally divided into? How many are in each group? How can you use an array to compare the quotient?  |
| <b>Additional Activity</b>  | <p>The same lesson can be duplicated using an array model and equal groups model. Provide students with a division equation. Students can solve the equation in two different methods. In the array model the student will count out a total number of square tiles equal to the dividend. The student will then arrange an array with the square tiles. The student must create a rectangle with all the square tiles. This is the quotient. In the equal groups model, the divisor determines how many groups will be needed for the equation. The student will count out the number of paper plates equal to the divisor. Then, the student will count out the number of small beads equal to the dividend. The student will place a bead in each plate and continue the process until all the beads have been used. Select one plate and count how many beads are in that group. This number is the quotient. Division equations can be written on dry erase boards.</p>   |
| <b>Check for Understanding</b>  | <p><b>Thinking Also Includes: Strategies for Activity</b></p> <p>"equal beads," "colored paper plates," "square tiles like," "dry erase boards," "dry erase markers," "dry erase boards."</p>  |
| <b>Check for Understanding</b>  | <p><b>Check for Understanding</b></p> <p>Dividend - the number we are dividing. Divisor - separating an object into equal parts. Quotient - the number we are dividing by. Equation - a mathematical sentence that uses the equal sign (=) to show that two expressions are equal. Product - the result or answer from multiplying. Quotient - the answer.</p>   |



## Technology Manipulatives


Utilizing technology manipulatives, students working on like learning objectives and units allows students to work through problems together and providing opportunities to speak about math. Ascend Math technology manipulatives may be accessed on interactive boards.



## On Demand Printable Study Guides

**Ascend Math®**

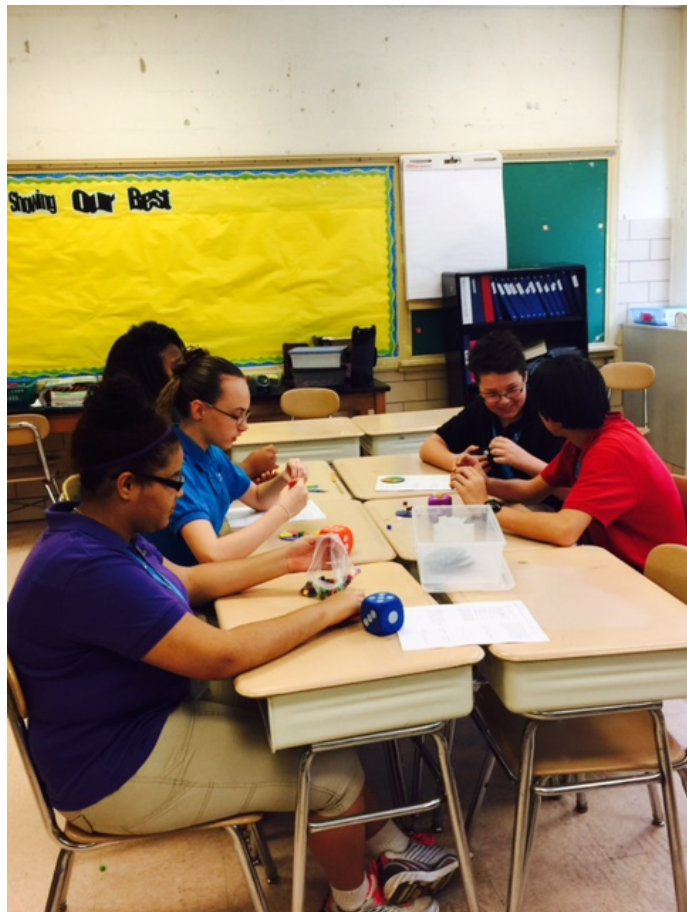
Name: \_\_\_\_\_

**Area and Unit Squares with Fractional Sides** Follow along with the video and take notes.Find  $\frac{1}{3}$  of 2 wholes. Draw along with the video.Kara baked 8 muffins. She only had enough frosting for  $\frac{3}{4}$  of the muffins. How many muffins had frosting? Draw along with the video.Gino's backyard is  $\frac{2}{3}$  of an acre of land. He wants to use  $\frac{1}{4}$  of that land for gardening. How much land will he use for his garden?

Teachers may print study guides at any time on demand to support group instruction.

### Engage in Project Based Activities

Ascend Math Guides suggests projects for hands on learning. Ascend Math real time reports indicating what is up next in students' learning paths allow teachers to group students working on similar standards. Students are working on projects that are relevant to their progress in Ascend Math.



In addition to the Ascend's prescriptive study plan, teachers may choose to utilize the Assign Objectives feature: This provides teachers and school administrators the ability to assign objectives outside of a student's automated study plan. Based on students' needs objectives may be assigned to an entire class or selected students. Once students complete their assigned objective, they are directed back to their automated study plan.



**F-L-I-P**

Ascend is available from any internet connected device. This enables teachers to incorporate the four pillars of F-L-I-P.

**Flexible Environment**

Students explore the multi modal environment of Ascend available for each objective. Ascend Math is more than an online workbook. Ascend Math Learning Objectives contain video instruction, interactive practice, interactive explore features and printable study guides for every learning objective.

**Learning Culture**

Ascend incorporates a Growth Mindset. In Ascend we not only want to reward a passing post assessment score, but recognize that a good strategy was used or emphasize how the student can learn from the mistake made. Please see exhibit xx for details on how Growth Mindset is utilized in Ascend.

**Intentional Content**

Ascend teaches conceptual understanding, as well as procedural fluency. Please see exhibit 16 Conceptual Versus Algorithmic Understanding.

**Professional Educator**

A flipped classroom puts additional demands on the teacher by requiring continual assessment and constant timely feedback. Ascend offers both built into its architecture.