Tab 1 Program Capabilities and Requirements

Contents

Ascend Math® is a research based on-line individualized intervention resource which identifies skill gaps, prescribes targeted instruction and motivates students to succeed. Ascend Math's adaptive Grade Level Recommendation Test or Screener identifies skill gaps according to CCSS. Using the identified standards, Ascend Math automatically differentiates instruction and assigns each student an individual education plan (IEP) based on individual needs. By identifying the starting level of each student, students working on Ascend Math begin to see success immediately and are highly motivated to succeed.

Once placed at a recommended functional level, Ascend differentiates instruction for each student by administering pre-assessments and then building learning paths based on students' strengths and weaknesses. Areas in which students successfully complete the pre assessment are automatically removed from their study plan. Upon completion of learning resources in the student learning center, students must successfully complete a post assessment in order to move on to the next lesson in sequence. Each subsequent lesson increases in difficulty as students move through the course plan. If students are unsuccessful in the completion of a post assessment, they are directed back to learning activities.

1. Pre and Post Testing

Ascend offers prescriptive, formative and summative assessments. Pre assessments diagnose and prescribe differentiated learning paths. Post assessments are formative assessments that ensure students achieve mastery in one learning objective prior to moving to the next learning objective in sequence. Ascend Math's reports allow teachers and administrators to easily compare pre and post assessment scores and related gains.

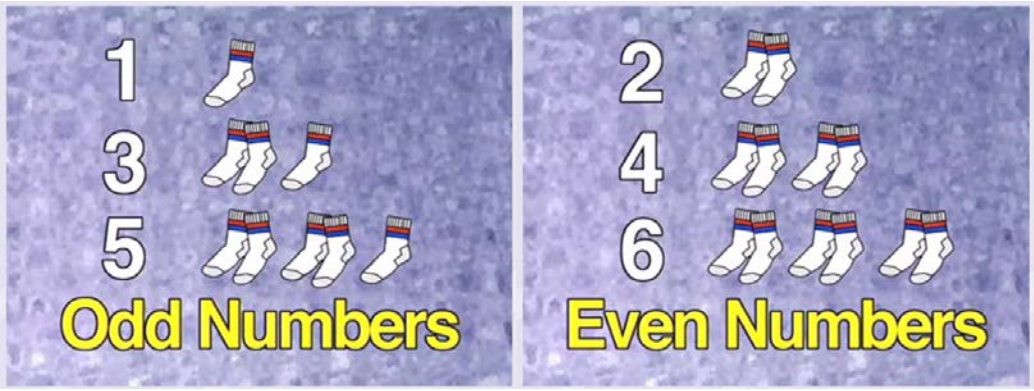
Ascend Math also offers summative assessments. Summative assessents may be offered multiple times in a school year. Ascend Math's Growth Report allows teachers and administrators to easily compare results between summative assessments.

Assessments are delivered online and questions take the form of multiple choice, open answer, and True/False. All questions are randomly pulled from a vast test bank. Answers for each particular question are randomly ordered.

In addition to online assessments, Ascend Math's Explore feature provides opportunity for oral assessment and Ascend Math Study guides allow for constructed response.

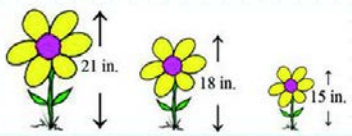
2. Number Sense

Ascend offers lots of opportunities to develop an intuitive feel for numbers and their relationships. Students are offered preparation for making mathematical decisions in the form of manipulatives, videos, practice problems, and explorations.



Check Answer
Show Answer
Next Question

8. The flowers below decrease in size from left to right. If the pattern continues, what will be the height of the next flower?



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- 13
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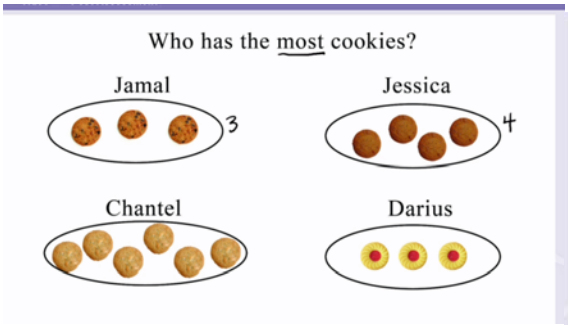
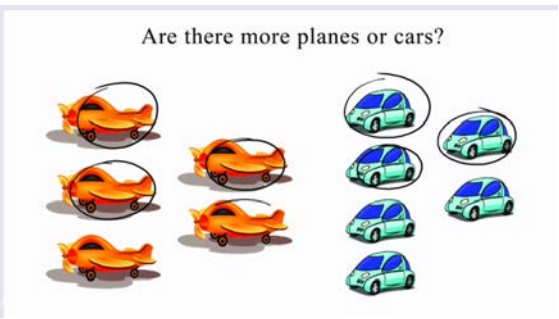
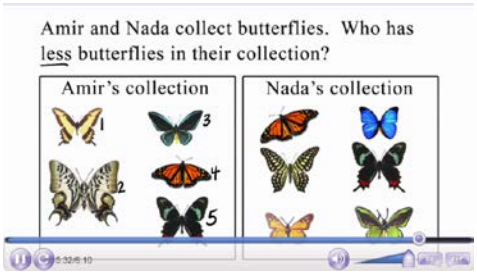
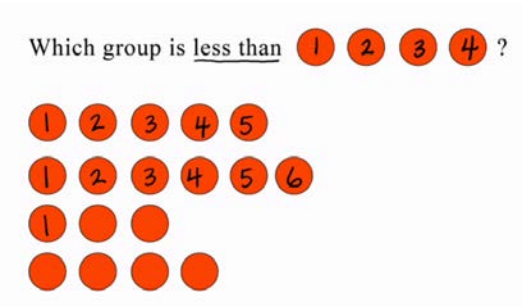
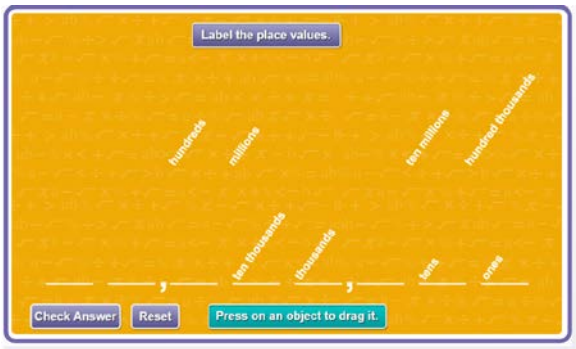










Ascend Math

Name: _____

Whole Numbers and Place Value

Follow along with the video and take notes.

The first of the **whole numbers** are: _____, _____, _____, _____, _____, _____,...
Construct a place value chart.

Label the periods (a **period** is a group of three digits)

8,736,429

We read a place value chart as sets of whole numbers followed by the name of each _____.

Términos De Números Enteros

El primero de los **números enteros** es: _____, _____, _____, _____, _____, _____,...
Construir un valor de lugar gráfico.

Identifique los períodos (un **período** es un grupo de tres dígitos).

8,736,429

Leemos un valor gráfico como el conjunto de los números enteros seguido por el nombre de cada _____.

Practice

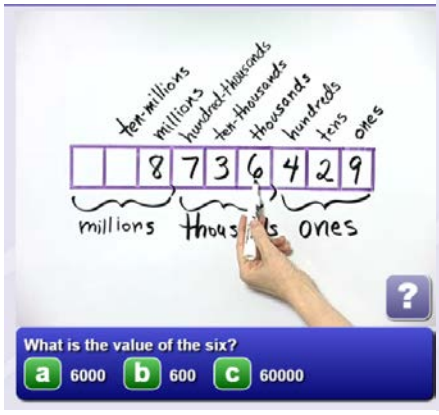
Now you try it!
Label the periods of the following numbers. Explain the reasoning for your answers.

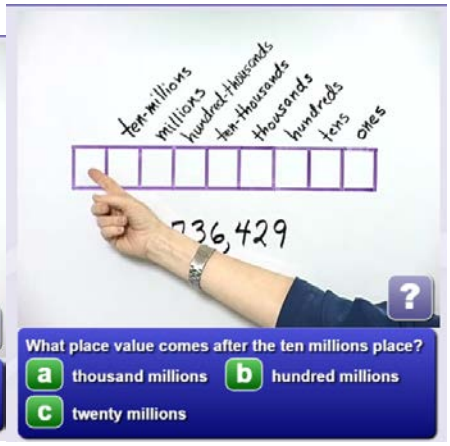
1. 3,149
2. 89,765
3. 39,996,752
4. 22,116
5. 39,996,752
6. 2,320,278

Práctica

¡Ahora inténtalo!

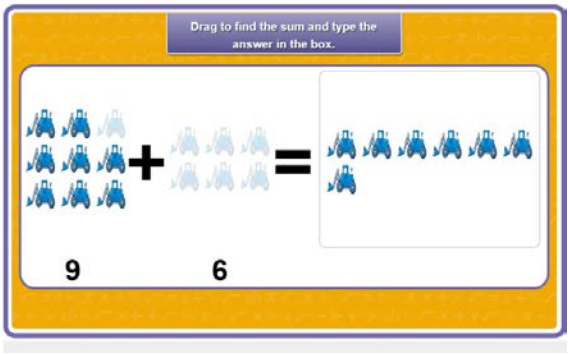
Nombre los períodos de los siguientes números.





3. Number & Operations

Ascend offers different modalities to cover operations at all different grade levels. Please attachment 4 for examples.



4. Math Facts-Timed and Untimed

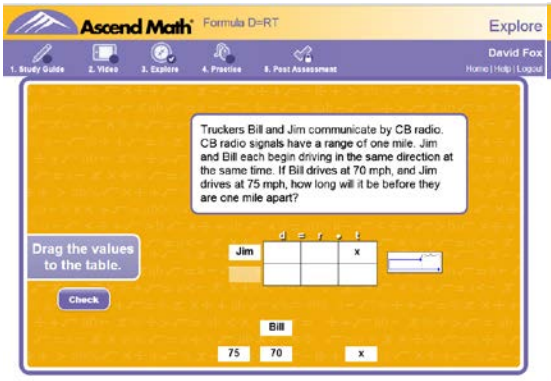
Ascend Math® resources include FlashCard Math which reinforces students' ability to build automaticity in recalling basic math facts.

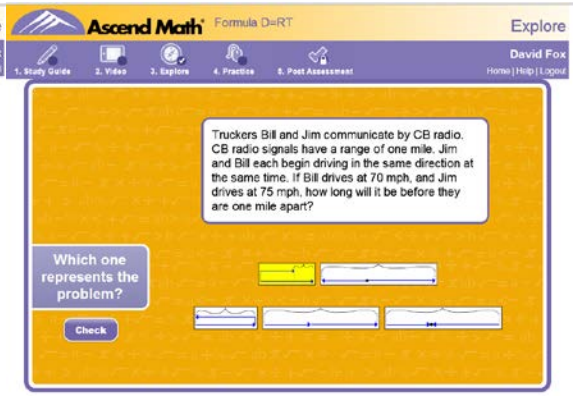
Please see details below.

5. Algebra

Ascend teaches steps and lays out tools that aid in solving similar problem solving situations, such as tables, steps, and models. See below for a few examples.

Tables and steps:





Objective:
Use the formula $d = r \cdot t$ to solve problems.

Distance = Rate x Time
Substitute

$d = r \cdot t \longrightarrow d =$ _____
$r =$ _____
$t =$ _____

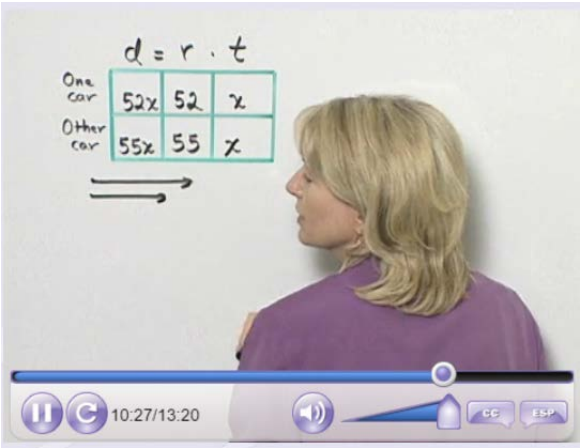
Substitute into $d = r \cdot t$:
We know 55 miles per hour is a _____, so if we drive at 55 m.p.h. for two hours we find:

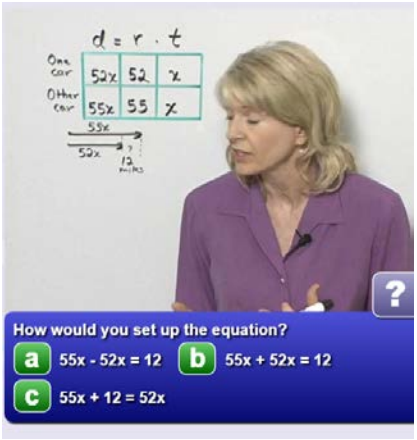
$d = r \cdot t$
=
=

Distance = Rate x Time

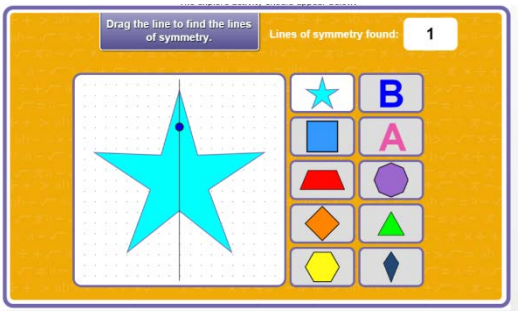
Copy solution steps:
From a point on a straight bicycle trail, Andrew and Stewart ride bicycles in opposite directions. Stewart's speed is 2 miles per hour slower than Andrew's. If they are 50 miles apart in 2.5 hours, what is the speed of each bicyclist?
set up 2 x 3 grid here *complete calculations here*

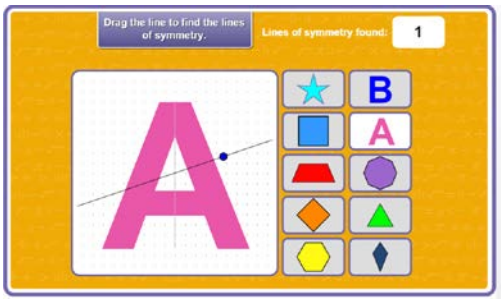
Ascend integrates video, study guide and exploration to allow students to grasp each task.



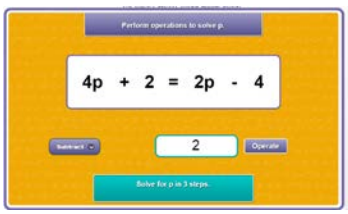


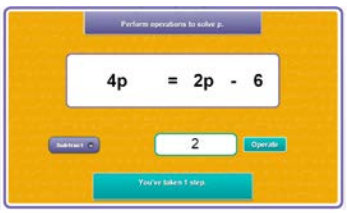
Models:

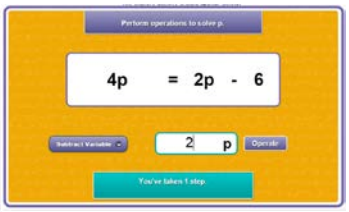


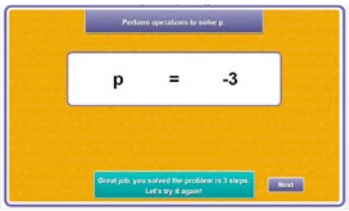


Steps:



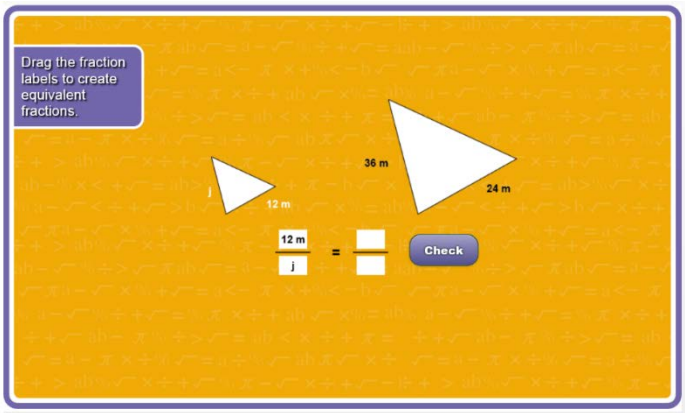


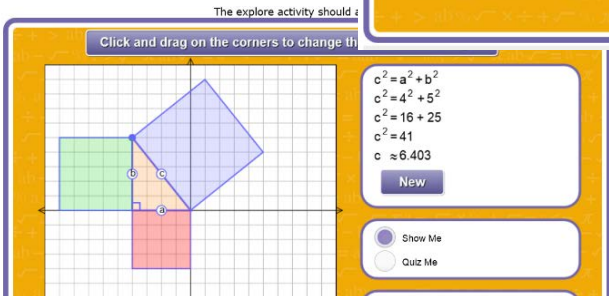


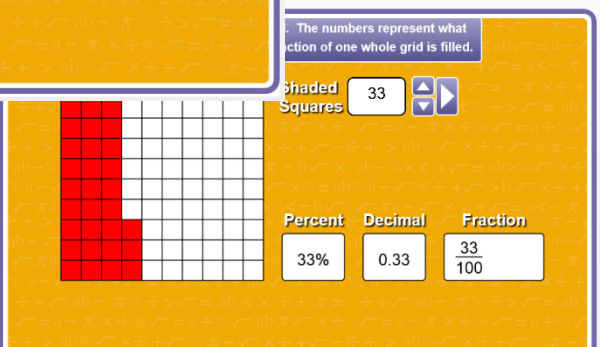


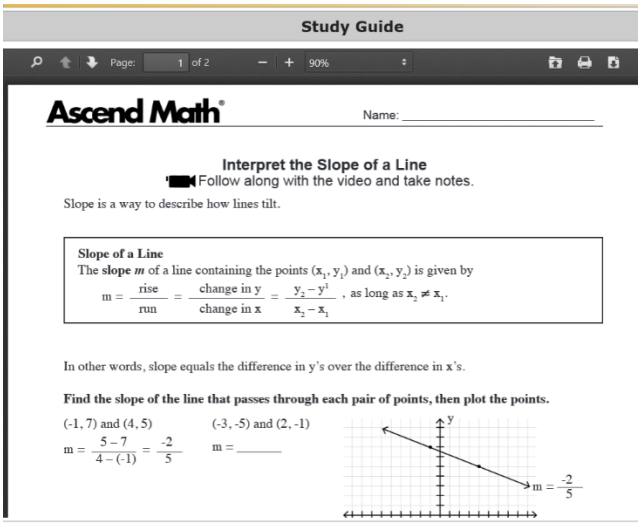
6. Geometry

Please see screenshots on the following page for a small sample of applicable content.









Study Guide

Page: 1 of 2 90%

Ascend Math

Name: _____

Interpret the Slope of a Line

Follow along with the video and take notes.

Slope is a way to describe how lines tilt.

Slope of a Line

The **slope** ***m*** of a line containing the points (x_1, y_1) and (x_2, y_2) is given by

$$m = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y^1}{x_2 - x_1}$$, as long as $x_2 \neq x_1$.

In other words, slope equals the difference in y's over the difference in **x**'s.

Find the slope of the line that passes through each pair of points, then plot the points.

(-1, 7) and (4, 5)

$m = \frac{5-7}{4-(-1)} = \frac{-2}{5}$

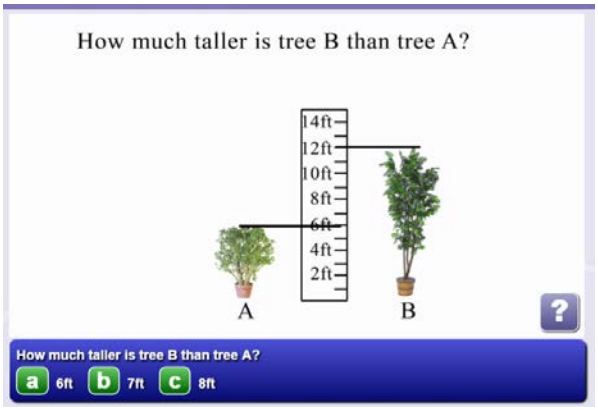
(-3, -5) and (2, -1)

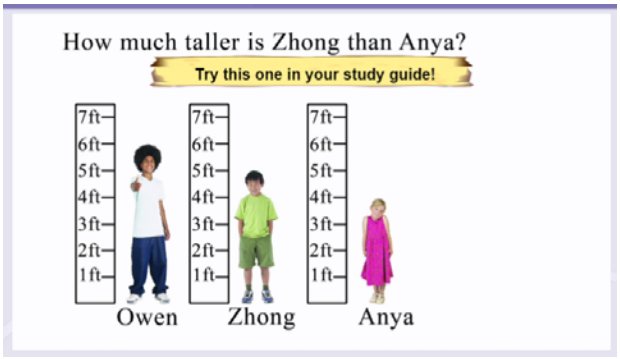
m = _____

7. Measurement

Ascend offers concrete, representational/pictorial, and abstract: Tool use is taught in many applicable areas, while encouraging precision as well as real life estimation.

Q 1. Which picture is 2 inches high?



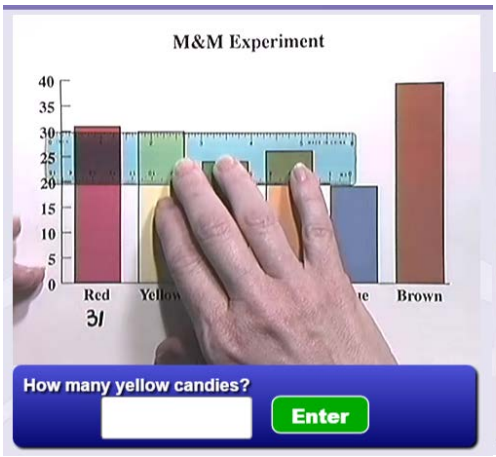


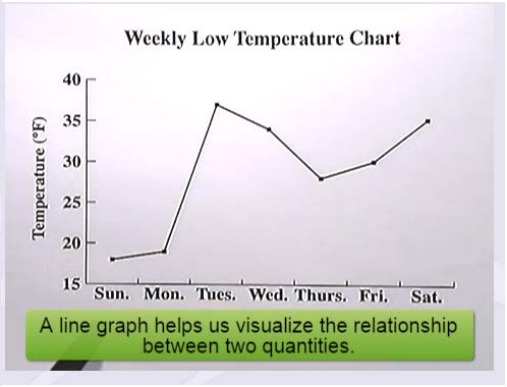
Ascend offers critical thinking at all levels, allowing creation of meaningful connections within mathematics.

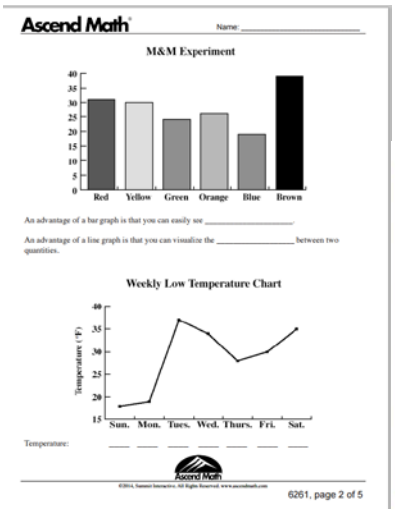
Q 17. Which measurement best describes the height of a bicycle?
A 1. 3 feet
A 2. 3 inches
A 3. 3 centimeters
A 4. 3 meters

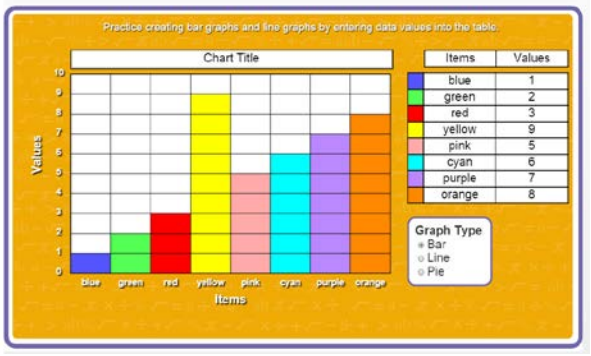
8. Data Analysis & Probability

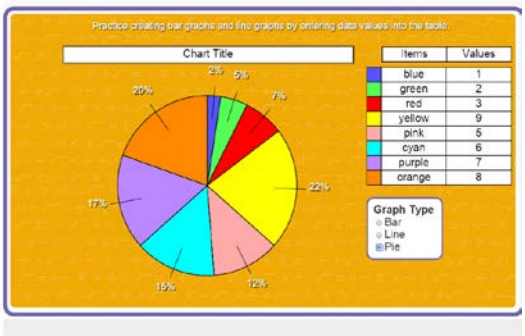
See examples immediately below.









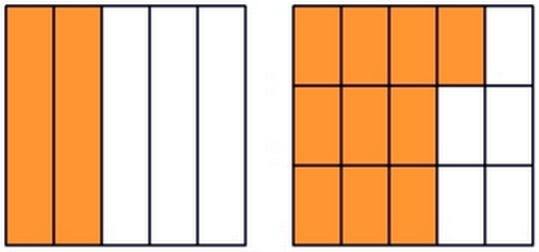


9. Problem Solving

Ascend Lesson E4.04 Level 4 and 5: balance between computation and conceptual understanding.

This teaches the concept behind cross multiplying to compare fractions. Ascend incorporates modeling at all levels. CCSS.Math.Practice.MP4

Q 37. The models are shaded to show that --



A 1. $\frac{2}{5} < \frac{10}{15}$

A 2. $\frac{2}{5} > \frac{10}{15}$

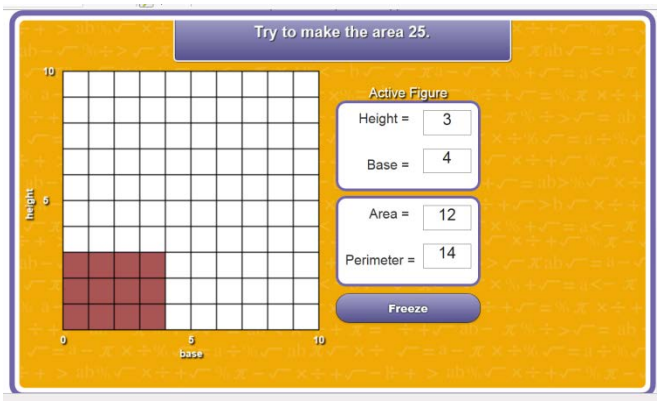
A 3. $\frac{3}{5} < \frac{5}{15}$

A 4. $\frac{2}{5} = \frac{10}{15}$

1. Evaluate the expression below.

$36 \div 6 \div 3 =$ ____

Problem solving skills are taught via Ascend hands-on manipulatives as well as award-winning video. See below for an example manipulating an area model to show a particular area.



10. Progress Monitoring

At the completion of the learning activities the student is directed to the post assessment. Post assessments are formative assessments that the student is required to pass, based on a desired proficiency level, prior to moving to the next objective in the study plan. Progress monitoring is therefore an ongoing process as students move through the Ascend Math curriculum.

Once the student has completed all objectives in the study plan for a unit, the student will pre assess on the next unit in the level. When all units in the level have been mastered, the system will automatically move the student to the next level in Ascend. Instruction for an Ascend Math level covers 30-40 hours of material.

The Teacher and Administrator interfaces are also robust but flexible. Teachers may follow CCSS exactly or modify the scope and sequence of their students' learning objectives to exactly meet their classroom needs. Ascend Math's automated tracking of student performance provides built-in and easy to access accountability reporting tied to Common Core Standards.

Ascend makes it easy to track and document each student's progress by providing many detailed reports at the student, class, school, and district level. Ascend offers pre and post assessment reporting. Reports include both formative and summative results. All assessment questions are randomly pulled from a test question database. Ascend reports will show the learning objective and the standard for which each objective correlates. All reports are available on-demand from anywhere a teacher or administrator has internet access. Ascend reports are available in HTML, PDF and Excel formats.

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In addition to online assessments, Ascend Math's Explore feature provides opportunity for oral assessment and Ascend Math Study guides allow for constructed response.

Ascend recently introduced a newly integrated dashboard in the teacher interface. Here, teachers receive real time pertinent information about each of their classes/students. This dashboard provides an at a glance tool for teachers to gauge which students are making progress and which students require one on one assistance.