



Only Treats, No Tricks with the New LTI Resource Search

SAFARI Montage - LTI Resource Search

- SAFARI Montage is a K-12 Learning Object Repository that allows users to search:
 - Locally hosted licensed resources
 - District created/curated content
 - Content licensed by the district from third party educational publishers [HMH, Pearson, etc.]
 - Live federated search of web-hosted digital resource databases directly from the interface.

SAFARI Montage - LTI Resource Search

- Implementing federated searches has presented challenges due to proprietary APIs and search result formats.
- LTI Resource Search removes those barriers by offering a standardized approach to both the search request and the search results.
- An LTI Resource result can be added to a playlist in SAFARI Montage as an LTI link along with content from other sources from the LOR search, allowing the user to aggregate content across providers with authorized links to the source.

SAFARI Montage - LTI Resource Search

- LTI Resource Search offers us the ability to easily include new learning object providers in our search interface.

The screenshot displays the SAFARI MONTAGE LTI Resource Search interface. At the top, the logo and navigation menu are visible. The search bar contains the term "triangle", and the results are filtered by "OpenED". The search results are displayed in a list format, showing the title, description, and publisher for each resource.

Search Results:

Resource Title	Description	Publisher
11.2 Areas of Parallelograms and Triangles (Lesson)	A lesson on the definition of area including formulas and proofs for the area of a rectangle, square, parallelogram and triangle	OpenEd
1.1 Getting Started with Geometry (Lesson)	A review of definitions of points, lines, rays, angles, and triangles	OpenEd
15.2 Inequalities in a Triangle (Lesson)	A lesson on the inequality theorems and relationships of side length and angle measures in a triangle	OpenEd

Each resource card includes a thumbnail image, a title, a brief description, and the OpenEd logo. Below the title and description, there are interactive buttons for "PLAY", "SAVE", and "PLAYLIST".

SAFARI Montage - LTI Resource Search

- A consumer platform can query an LTI Resource Search service provider via calls to the “resources” REST endpoint.
- For example, this is the call to OpenEd to search for resources aligned to a specific CASE standard.

```
https://partner.opened.com/ims/rs/v1p0/resources?limit=10&offset=0&filter=learningObjectives.ca  
seltemGUID='31648352-12A7-11E8-827E-0242AC120005'&sort=name&orderBy=asc
```

- This the call to OpenEd to search for resources with the keyword “triangle” in the title, description or subject fields for ages 4-10 published after 1-1-2017.

```
https://partner.opened.com/ims/rs/v1p0/resources?limit=10&offset=0&filter=search~'triangle'  
AND typicalAgeRange='4-10' AND publishDate>='2017-01-  
01'&sort=name&orderBy=asc&fields=name,description,author,ltiLink,typicalAgeRange,publisher,l  
earningObjectives,learningResourceType,educationalAudience,thumbnailUrl,url,publishDate
```


```

"resources": [
  {
    "id": 9243265,
    "name": "20x20 grid triangle perimeter and area",
    "description": null,
    "publisher": "GeoGebra",
    "learningObjectives": [
      {
        "caseItemGUID": "3ff81861-80f3-4a68-91e5-7489dbf83fa3",
        "caseItemUri": "http://frameworks.act.org/ims/case/v1p0/CFItems/3ff81861-80f3-4a68-91e5-7489dbf83fa3",
        "alignmentType": "teaches",
        "targetName": "H.A.MATH.GM.PF.P.L1.2",
        "targetDescription": "Distinguish between the perimeter and area measures"
      },
      {
        "caseItemGUID": "8546c402-e191-4c3f-a0c2-26be3af1a4f2",
        "caseItemUri": "http://frameworks.act.org/ims/case/v1p0/CFItems/8546c402-e191-4c3f-a0c2-26be3af1a4f2",
        "alignmentType": "teaches",
        "targetName": "H.A.MATH.GM.PF.P.L1.4",
        "targetDescription": "Understand that the perimeter of a plane figure can be calculated by adding the lengths of its sides"
      },
      {
        "caseItemGUID": "03b8da29-335c-4a36-b2f3-e410fdce137d",
        "caseItemUri": "http://frameworks.act.org/ims/case/v1p0/CFItems/03b8da29-335c-4a36-b2f3-e410fdce137d",
        "alignmentType": "teaches",
        "targetName": "H.A.MATH.GM.PF.P.L1.10",
        "targetDescription": "Calculate the perimeter of a plane figure given a diagram with dimensions marked"
      }
    ],
    "learningResourceType": [
      "Interactive/Simulation"
    ],
    "typicalAgeRange": "8-3",
    "publishDate": "2017-05-18T12:07:41.101Z",
    "author": [
      ""
    ],
    "thumbnailUrl": "https://images.opened.com/pictures/9243265/thumb_large/image20170518-4-1tthtgg2.png?1495109264",
    "educationalAudience": [
      "student"
    ],
    "ltiLink": {
      "title": "https://www.opened.com/resources/9243265?oauth_access_token=4f482945ca71847dffc49bfff58887fd5324100b5586ec7e5cf8d4ef4f2b66ff5",
      "launch_url": "https://www.opened.com/resources/9243265?oauth_access_token=4f482945ca71847dffc49bfff58887fd5324100b5586ec7e5cf8d4ef4f2b66ff5",
      "description": "",
      "extension": "",
      "secure_launch_url": "",
      "icon": "",
      "secure_icon": "",
      "vendor": {
        "code": "NULL",
        "name": "OpenEd"
      },
      "cartridge_icon": {
        "name": "NULL",
        "resourceUri": "NULL"
      },
      "cartridge_bundle": {
        "name": "NULL",
        "resourceUri": "NULL"
      }
    },
    "url": "https://www.opened.com/resources/9243265"
  }
]

```

SAFARI Montage - LTI Resource Search

Basic Search



Default Administrator | Log Out
SAFARI Montage LOR

DASHBOARD SEARCH SUBJECTS STANDARDS PLAYLISTS MODULES PREFERENCES ADMIN HELP

ACTIVE PLAYLIST [3 ITEMS]: IMS GLOBAL HAPPY HALLOWEEN

Search
Recent

triangle

GRADE RANGE: Pre-K to Adult

PUBLISHER: All Publishers

Filters Reset

All	Videos	Images	Audio	Interactive	Documents	Web	eBooks	Playlists	Assessments	Lessons	PD	My Files	Google Drive	OpenEd
776	SAFARI Montage Web Streaming	44		171	152	104	4	1			1	605	#	

OpenEd Results 1 to 10 of 560 (0.674 seconds) | 1 | 2 | 3 | 4 | 5

15.2 Inequalities in a Triangle (Lesson)

A lesson on the inequality theorems and relationships of side length and angle measures in a triangle

MEDIA: URL Video
TYPE: Media/Video
GRADES: 7 to 9

PLAY WEB LINK PLAYLIST

15.2 Inequalities in a Triangle (Practice)

MEDIA: URL Video
TYPE: Media/Video
GRADES: 7 to 9

PLAY WEB LINK PLAYLIST

18 - Properties of Isosceles Triangles




This is a video lecture course on Introduction to Geometry.....

MEDIA: URL Video
TYPE: Media/Video
GRADES: 7 to 9

PLAY WEB LINK PLAYLIST


SAFARI Montage - LTI Resource Search

Search With Grade Ranges

Default Administrator | Log Out
SAFARI Montage LOR


[DASHBOARD](#) [SEARCH](#) [SUBJECTS](#) [STANDARDS](#) [PLAYLISTS](#) [MODULES](#) [PREFERENCES](#) [ADMIN](#) [HELP](#)

ACTIVE PLAYLIST [3 ITEMS]: IMS GLOBAL HAPPY HALLOWEEN

 Search GRADE RANGE: to PUBLISHER: Filters

All	Videos	Images	Audio	Interactive	Documents	Web	eBooks	Playlists	Assessments	Lessons	PD	My Files	Google Drive	OpenEd
170	SAFARI Montage Web Streaming	43		43	6	35		1				66	#	


OpenEd Results 1 to 10 of 188 (0.779 seconds) 1 | 2 | 3 | 4 | 5

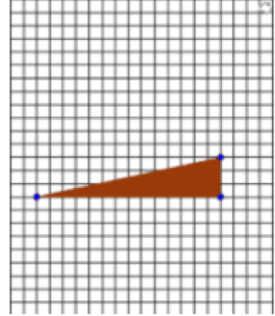


2003 AIME II problem 7 | AIME | Math for fun and glory | Khan Academy

Area of rhombus from circumradii of triangles. All Khan Academy content is available for free at www.khanacademy.org


MEDIA: URL Video
TYPE: Media/Video
GRADES: 2 to 7

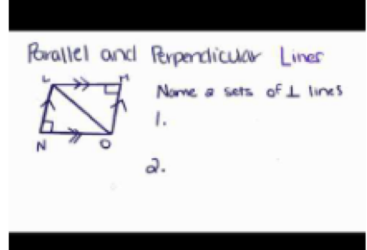




20x20 grid triangle perimeter and area

MEDIA: URL
TYPE: Interactive/Simulation
GRADES: Pre-K to 3






24 - Parallel and Perpendicular Triangles


This is a video lecture course on Introduction to Geometry.....

MEDIA: URL Video
TYPE: Media/Video
GRADES: Pre-K to 3





SAFARI Montage - LTI Resource Search

Search By CASE Standard



Default Administrator | Log Out
SAFARI Montage LOR
























DASHBOARD SEARCH SUBJECTS **STANDARDS** PLAYLISTS MODULES PREFERENCES ADMIN HELP

Active Playlist [3 Items]: [IMS Global Happy Halloween](#)




There are **463 Georgia** standards for this selection within [Common Core State Standards for Math](#).

[Standards Home](#) >> [Common Core State Standards for Math](#) [Collapse All](#) | [Expand All](#)

- Standards for Math Content (Grades K-8) 
- Grade 1 (Grade 1) 
- Grade 2 (Grade 2) 
- Grade 3 (Grade 3) 
- Grade 4 (Grade 4) 
- Grade 5 (Grade 5) 
- Grade 6 (Grade 6) 
- Grade 7 (Grade 7) 
- Grade 8 (Grade 8) 
- Expressions & Equations (Grade 8) 
- Functions (Grade 8) 
- Geometry (Grade 8) 
- 8.G.A** : Understand congruence and similarity using physical models, transparencies, or geometry software. (Grade 8) 
- 8.G.A.1** : Verify experimentally the properties of rotations, reflections, and translations: (Grade 8) 
- **8.G.A.1.a** : Lines are taken to lines, and line segments to line segments of the same length. (Grade 8)  [3 LOR Titles correlate to this standard.](#)
- **8.G.A.1.b** : Angles are taken to angles of the same measure. (Grade 8) 
- **8.G.A.1.c** : Parallel lines are taken to parallel lines. (Grade 8) 
- 8.G.A.2** : Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. (Grade 8) 
- 8.G.A.3** : Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. (Grade 8) 
- 8.G.A.4** : Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. (Grade 8) 
- 8.G.A.5** : Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.* (Grade 8) 


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Search By CASE Standard

Default Administrator | Log Out
SAFARI Montage LOR

[DASHBOARD](#) [SEARCH](#) [SUBJECTS](#) [STANDARDS](#) [PLAYLISTS](#) [MODULES](#) [PREFERENCES](#) [ADMIN](#) [HELP](#)

ACTIVE PLAYLIST [3 ITEMS]: IMS GLOBAL HAPPY HALLOWEEN


 **Search**
Recent

GRADE RANGE: to

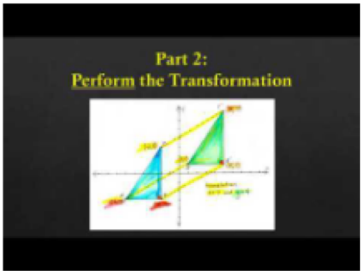
PUBLISHER:

[Filters](#) [Reset](#)

All	Videos	Images	Audio	Interactive	Documents	Web	eBooks	Playlists	Assessments	Lessons	PD	My Files	Google Drive	OpenEd
3	SAFARI Montage Web Streaming					3						3	#	


 **OpenEd Results 1 to 10 of 16** (0.594 seconds) ⏪ ⏩

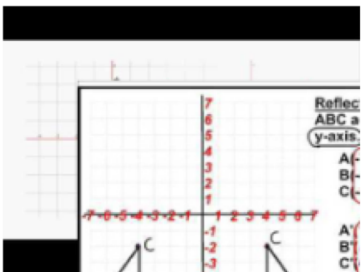
for Academic Standard GA 8.G.A.1.a: Lines are taken to lines, and line segments to line segments of the same length.



6B Rigid Transformations


MEDIA: URL Video
TYPE: Media/Video
GRADES: 7 to 8

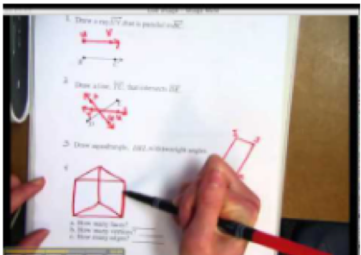
Video reviews the transformations and uses many examples to show that transformed figures are congruent to the original image. 



8.G.1.a Lines & Segments to Lines & Segments


MEDIA: URL
TYPE: Assessment/Formative
GRADES: 3 to 8





Geometry- Rays and lines.

MEDIA: URL Video
TYPE: Media/Video
GRADES: 3 to 4

A tutorial showing how to draw rays and lines from several examples. 

SAFARI Montage - LTI Resource Search

Additional Search Fields

The list of permitted terms for 'data_field' is given in Table 3.1:

Table 3.1 List of terms used for filtering.

Term	Type	Description
search	Normalized String	This is a special term that requires the associated filter term to be applied to the 'name', 'subject' and 'description' values.
name	Normalised String	The name/title of resource.
description	Normalized String	A human readable description of the contents of the resource.
subject	Normalized String	A subject of the resource.
learningResourceType	Enumerated List (see [RS-SM, 18])	The type of the resource.
language	Enumerated List (see [RFC 3066])	Language used in the resource.
typicalAgeRange	Normalized String (Constrained pattern)	Age of the typical intended user. This is described as the minimum and maximum ages.
textComplexity.name	Enumerated List (see [RS-SM, 18])	A number indicating text complexity based on number of established measures. The filter is applied to the 'name' part of this complex structure.
textComplexity.value	Normalized String	A number indicating text complexity based on number of established measures. The filter is applied to the 'value' part of this complex structure.
learningObjectives.alignmentType	Enumerated List (see [RS-SM, 18])	Learning objective addressed by the resource. The filter is applied to the 'alignmentType' part of this complex structure.
learningObjectives.educationalFramework	Normalized String	Learning objective addressed by the resource. The filter is applied to the 'educationalFramework' part of this complex structure.
learningObjectives.targetDescription	Normalized String	Learning objective addressed by the resource. The filter is applied to the 'targetDescription' part of this complex structure.
learningObjectives.targetName	Normalized String	Learning objective addressed by the resource. The filter is applied to the 'targetName' part of this complex structure.
learningObjectives.targetURL	URL	Learning objective addressed by the resource. The filter is applied to the 'targetURL' part of this complex structure.
learningObjectives.caseItemURI	URI	Learning objective addressed by the resource. The filter is applied to the 'caseItemUR' part of this complex structure.
learningObjectives.caseItemGUID	GUID	Learning objective addressed by the resource. The filter is applied to the 'caseItemGUID' part of this complex structure.
author	Normalised String	Author or creator of the resource.
publisher	Normalised String	Owner of the rights to the resource or who made it available (company or person).
timeRequired	Duration (see [ISO 8601])	Time that the resource takes to consume.
technicalFormat	Normalised String	MIME format of the resource.
educationalAudience	Enumerated List (see [RS-SM, 18])	For whom the resource is intended.
accessibilityAPI	Enumerated List (see [RS-SM, 18])	Accessibility API supported by the resource.
accessibilityInputMethods	Enumerated List (see [RS-SM, 18])	How the resource can be controlled by the user, including full keyboard controllability, mouse controllability, and voice controllability.
accessMode	Enumerated List (see [RS-SM, 18])	The human sensory perceptual system or cognitive faculty through which a person may process or perceive information.
publishDate	Date (see [ISO 8601])	Date the resource was published by the publisher.
rating	Enumerated List (see [RS-SM, 18])	A rating of the quality of the resource determined by the SearchProvider.

SAFARI Montage - LTI Resource Search

Search By CASE Standard With GaDOE Curriculum Map

The screenshot displays the GaDOE Curriculum Map for 8th Grade, 1st Semester. The page is titled "GSE Eighth Grade Curriculum Map" and "1st Semester". It features four units, each with a list of standards and a "RESOURCES" button.

UNIT 1: Lines and Line Segments
LTI Resource Search Using CASE
(4 - 5 Weeks)
8.G.A.1.A
[RESOURCES](#)

UNIT 2: Transformations, Congruence and Similarity
Professional Development
(4 - 5 Weeks)
MGSE8.G.1
MGSE8.G.2
MGSE8.G.3
MGSE8.G.4
MGSE8.G.5
[RESOURCES](#)

UNIT 3: Exponents
(4 - 5 Weeks)
MGSE8.EE.1
MGSE8.EE.2-Evaluating
MGSE8.EE.3
MGSE8.EE.4
MGSE8.EE.7
MGSE8.EE.7a
MGSE8.EE.7b
MGSE8.NS.1

UNIT 4: Geometric Applications of Exponents
(4 - 5 Weeks)
MGSE8.G.6
MGSE8.G.7
MGSE8.G.8
MGSE8.G.9
MGSE8.EE.2-(Equations)

The page includes a navigation menu with links for Home, Links, Introduction, and Grade Expanded. A green arrow button is located in the bottom right corner.

SAFARI Montage - LTI Resource Search

Search By CASE Standard With GaDOE Curriculum Map

The screenshot displays the SAFARI Montage LTI Resource Search interface. At the top, there is a search bar with the SAFARI MONTAGE logo and a search button. The user is logged in as the Default Administrator. The navigation menu includes Dashboard, Search, Subjects, Standards, Playlists, Modules, Preferences, Admin, and Help. The active playlist is "IMS GLOBAL HAPPY HALLOWEEN".

The search results are filtered by "Standards Results" and "Web" (3 items). The search criteria are: Refine Search, GRADE RANGE: Pre-K to Adult, and PUBLISHER: All Publishers. The results show 1 to 10 of 16 items for Academic Standard GA 8.G.A.1.a: Lines are taken to lines, and line segments to line segments of the same length.

The first result is "6B Rigid Transformations" (URL Video, Media/Video, Grades 7 to 8). The second result is "8.G.1.a Lines & Segments to Lines & Segments" (URL, Assessment/Formative, Grades 3 to 8). The third result is "Geometry- Rays and lines." (URL Video, Media/Video, Grades 3 to 4).

Each result includes a thumbnail image, a title, a description, metadata (Media, Type, Grades), and an OpenEd logo. The results also include interactive buttons for Play, Web Link, and Playlist.