

New York State Mathematics Correlation (Grade 7)

Reference: [NY Mathematics Core Curriculum](#)

Introduction

This document correlates Yenka Mathematics software to the content performance indicators of the New York State mathematics core curriculum. It highlights specific areas of the curriculum that are covered by Yenka Mathematics and points to resources that will be useful when teaching the material.

The terminology we have used in this document is as follows:

- **Product:** this is the relevant Yenka Mathematics product, either [Yenka 3D Shapes](#) or [Yenka Statistics](#). More information about these products can be found on the Yenka web page by following the links.
- **Model:** a pre-made Yenka simulation with step-by-step instructions, which will either teach the pupils part of the curriculum, or give them opportunity to apply the knowledge they already have. These models are found under *Content* when you open Yenka itself, and they are linked to through our website.
- **Tutorial:** a model that explains how to use a particular aspect of the Yenka software. These can be found under *Getting Started* in the *Content* tab of Yenka.

Since the Yenka Mathematics titles are simulators, they will help you to cover other areas of the curriculum too. The final column of the table gives some possible *examples* of how you, or the students, can use Yenka Mathematics to create your own models and cover a wider scope of material. You may wish to look at the *tutorials*, and [training videos](#) provided on the website, to explore more of the potential uses of the software, and show you how to create your own models.



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Geometry Strand

Band		Product	Content (Models)	Example
<i>Shapes</i>	7.G.2 Calculate the volume of prisms and cylinders, using a given formula and a calculator	Yenka 3D Shapes	<ul style="list-style-type: none"> - Cube - Prisms <p>See also:</p> <ul style="list-style-type: none"> - Volume of a cylinder - Volume of a prism - Which cylinder has the greatest volume? 	
	7.G.3 Identify the two-dimensional shapes that make up the faces and bases of three-dimensional shapes (prisms, cylinders, cones, and pyramids)	Yenka 3D Shapes	<p>Related model:</p> <ul style="list-style-type: none"> - Cube net <p>and tutorial</p> <ul style="list-style-type: none"> - Creating and folding nets 	
	7.G.4 Determine the surface area of prisms and cylinders, using a calculator and a variety of methods	Yenka 3D Shapes	<ul style="list-style-type: none"> - Surface area of a prism 	
<i>Geometric Relationships</i>	7.G.5 Identify the right-angle, hypotenuse, and legs of a right triangle	Yenka 3D Shapes		Use <i>right-angled</i> triangles, from <i>2D Shapes</i> , and <i>Presentation objects</i> to either label the relevant parts of the triangle, or provide multiple-choice questions asking students to correctly identify the different parts of the triangles.
	7.G.6 Explore the relationship between the lengths of the three sides of a right triangle to develop Pythagorean Theorem	Yenka 3D Shapes		Create a model with several <i>right-angled triangles</i> of different sizes, orientations etc. Ask students to use the length <i>Measurement tool</i> to determine the length of each of the sides of the triangle, and take them through the steps required to lead to Pythagorean

				Theorem. Repeat with non-right triangles to show that this does not hold for all triangles.
	7.G.8 Use the Pythagorean Theorem to determine the unknown length of a side of a right triangle	Yenka 3D Shapes		As above, but provide labels giving the lengths of two sides of a triangle and ask students to calculate the third. Then they can measure the length themselves to check their answer, or you can use a <i>Question</i> presentation object where the pupils can enter their answer and see if they are correct.
	7.G.9 Determine whether a given triangle is a right triangle by applying the Pythagorean Theorem and using a calculator	Yenka 3D Shapes		Similar to above.

Statistics and Probability Strand

Band		Product	Content (Models)	Example
<i>Organization and Display of Data</i>	7.S.2 Display data in a circle graph	Yenka Statistics		Yenka Statistics has the facility to quickly display a <i>Pie chart</i> from a data set. Pupils can create, or import, their own data to an <i>Empty data set</i> , or use one of the <i>Example data sets</i> provided. They then add a pie chart to the model, and can be asked to investigate the graph, consider the advantages of using it to display data in contrast to a table etc.
<i>Analysis of Data</i>	7.S.4 Calculate the range for a given set of data	Yenka Statistics		As above, students can create their own <i>data set</i> or use one of the <i>Example data set</i> . The students should look at the table, and/or associated graphs to calculate the range of data, and can check their answer by looking at <i>Spread</i> in the <i>Summary tab</i> of the data set.

	7.S.5 Select the appropriate measure of central tendency	Yenka Statistics	<ul style="list-style-type: none"> - Mean - Median with odd number - Median with even number - Mode - Comparing averages 	When working with a <i>data set</i> , the <i>Summary tab</i> displays the mean, median and mode of the data, allowing students to compare and contrast the different measures of central tendency, and decide which is the most useful in a given situation.
	7.S.6 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs or circle graph)	Yenka Statistics	<ul style="list-style-type: none"> - Bar chart - Histogram - Correlation - Line of best fit <p>See also tutorial:</p> <ul style="list-style-type: none"> - Graphing data 	Yenka has the facility to produce bar graphs, histograms, pie charts, scatter plots, and frequency polygons, quickly and easily from a data set.
<i>Probability</i>	7.S.10 Predict the outcome of an experiment	Yenka Statistics	<p>Related models:</p> <ul style="list-style-type: none"> - Probability scale - Probability and relative frequency - More trials better results <p>See also tutorial:</p> <ul style="list-style-type: none"> - Playing probability games 	Students can easily simulate their own experiments in Yenka. Using, for example, a weighted dice in <i>Probability games</i> they can use the probability tree to predict the outcome of an experiment in terms of probabilities, role the dice multiple times, and compare the actual and predicted results. They will see that the actual results come closer to the predicted results the more times the dice is rolled.
	7.S.11 Design and conduct an experiment to test predictions.			
	7.S.12 Compare actual results to predicted results			

If you have any questions about Yenka or this document, please contact [Esther Droop](#) or visit www.yenka.com