Vista Heights Junior High

Home of the Blackhawks!

Mathematics Tracks

To begin viewing, click me!

VHMS Math

We are excited to have your student with us here. As you may know, in 2012, Utah adopted a new math curriculum. We have created this presentation to help you better understand your options and how to best place your child for his or her math ability.

Title Page

Math Practices & the Utah Core

Math Practices

Part of the new core is the Math Practice which require that students learn more than algorithms. The 8 Math Practices are constant from year to year and include:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

If you'd like to learn more about each practice, click on the practice to get to that page.

VHMS Math

What courses can I take?

Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

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Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

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Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, standards for mathematical practice communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

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Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

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Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

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Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Go back to Math Practices 

Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x2 + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(x – y)2 as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

Go back to Math Practices

Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x2 + x + 1)$, and $(x – 1)(x3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

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What courses can I take?

7th Grade Students

8th Grade Students

9th Grade Students*

* Beginning the 2013-2014 School Year

Now what? Where am I going?

(Click Here)

7th Grade Courses

Intermediate Math 1

This course is designed to be taken by most 7th grade students, and is based upon concepts from the new Utah Core for 7th grade mathematics.

Intermediate Math 1 AC

This course is designed to replace Intermediate Math 1 for 7th grade students who have passed a placement test and/or have been part of the ALL program. This course covers both Intermediate Math 1 and Intermediate Math 2 at an accelerated pace.

To learn more about AC courses, click here.

Daily Dose

This course is designed to be taken *with and in addition to* Intermediate Math 1. Enrolling in this class ensures that students receive extra math instruction every day to support their normal math instruction. To learn more about Daily Dose, click here.

Return to **What Courses Can I Take?**

Go to **Where am I going after 7th?**

8th Grade Courses

Intermediate Math 2

This course is designed to be taken by most 8th grade students, and it is based upon concepts from the new Utah Core for 8th grade mathematics.

Intermediate Math 2/ Secondary Math 1 AC

This course is designed to replace Intermediate Math 2 for 8th grade students who have, taken Intermediate Math 1H/2H, passed a placement test and/or have been part of the ALL Program previously. This course covers both Intermediate Math 2 and Secondary Math 1 at an accelerated pace. To learn more about AC courses, click here.

Daily Dose

This course is designed to be taken *with and in addition to* Intermediate Math 2. Enrolling in this class ensures that students receive extra math instruction every day to support their normal math instruction. To learn more about Daily Dose, click here.

Return to **What Courses Can I Take?**

Go to **Where am I going after 8th?**

9th Grade Courses

Beginning the 2013-2014 School Year

Secondary Math 1

This course is designed to be taken by most 9th grade students, and it is based upon concepts from the new Utah Core for 9th grade mathematics.

Secondary Math 1 Honors

This course is designed to be taken by students who have taken Intermediate Math 2 and passed a placement test or for students who have taken Intermediate Math 2H/Secondary 1H who may need a stronger foundation before moving onto Secondary Math 2 or Secondary Math 2 Honors. To learn more about AC courses, click here.

Secondary Math 2

This course is designed to replace Secondary Math 1 for 9th grade students who have, taken Intermediate Math 2H/Secondary 1H, passed a placement test and/or have been part of the ALL Program previously. This course covers both Intermediate Math 2 and Intermediate Math 2 at an accelerated pace.

Daily Dose

This course is designed to be taken *with and in addition to* Secondary Math 1. Enrolling in this class ensures that students receive extra math instruction every day to support their normal math instruction.

To learn more about Daily Dose, click here.

Return to **What Courses Can I Take?**

Go to **Where am I going after 9th?**

Benefits of Daily Dose

A limited number of these classes are offered to help those kids that need extra time or exposure to understand the concepts taught in their regular math classes. This is NOT a study hall where they come just to complete their homework. Homework help is available, but on occasion, there will be additional homework assigned in this class to solidify concepts.

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Benefits of Accelerated Courses

These classes challenge the best students and push them to understand the concepts at a deeper level. At VHMS, the AC classes are about a year ahead of the other classes (i.e. Intermediate 1 AC follows the Intermediate 2 curriculum). This track leads students to be able to take more AP classes in high school, but the classes are very challenging adding additional material as well as covering it at a faster pace.

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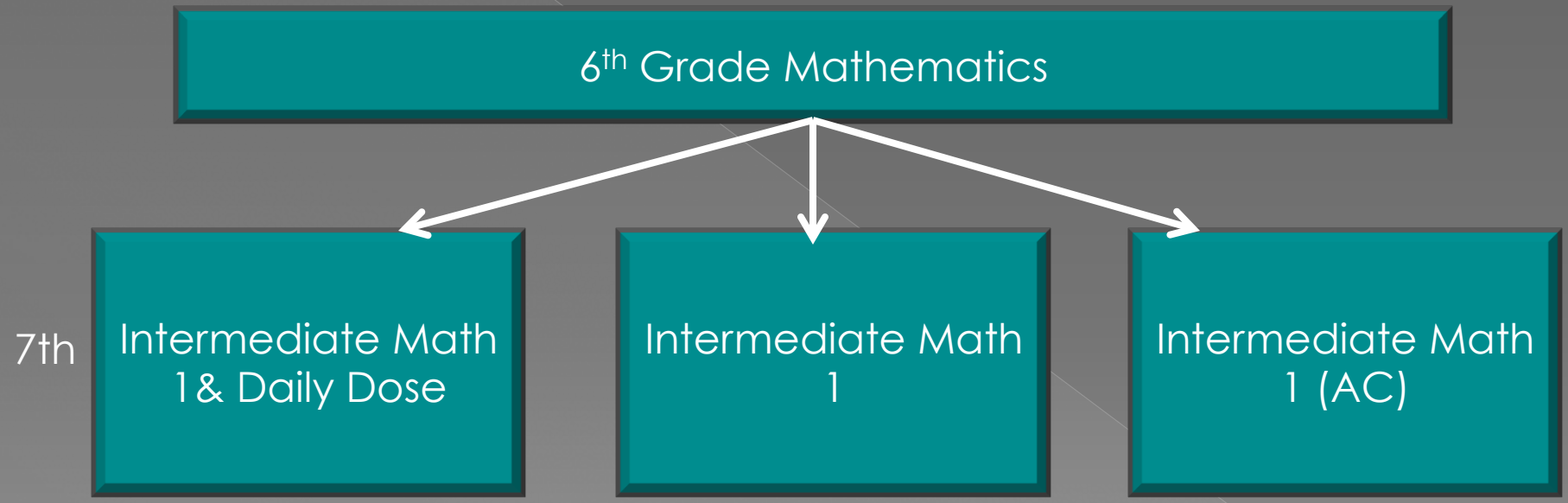
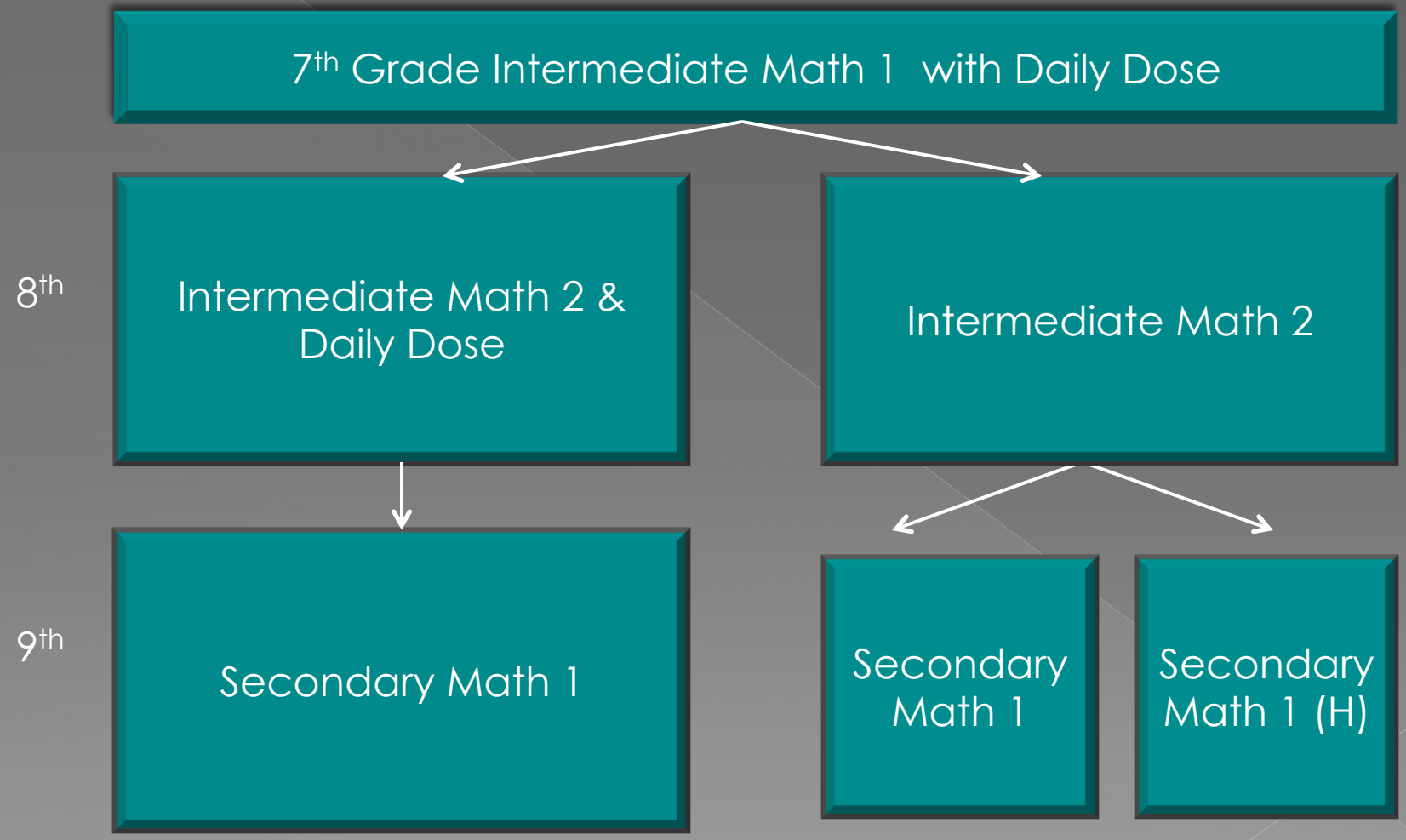
Where am I going?

Choose your seventh grade course to follow your track through Vista Heights Math.



Wondering about high school?
Click here for math after Vista Heights!

Intermediate Math 1 & Daily Dose



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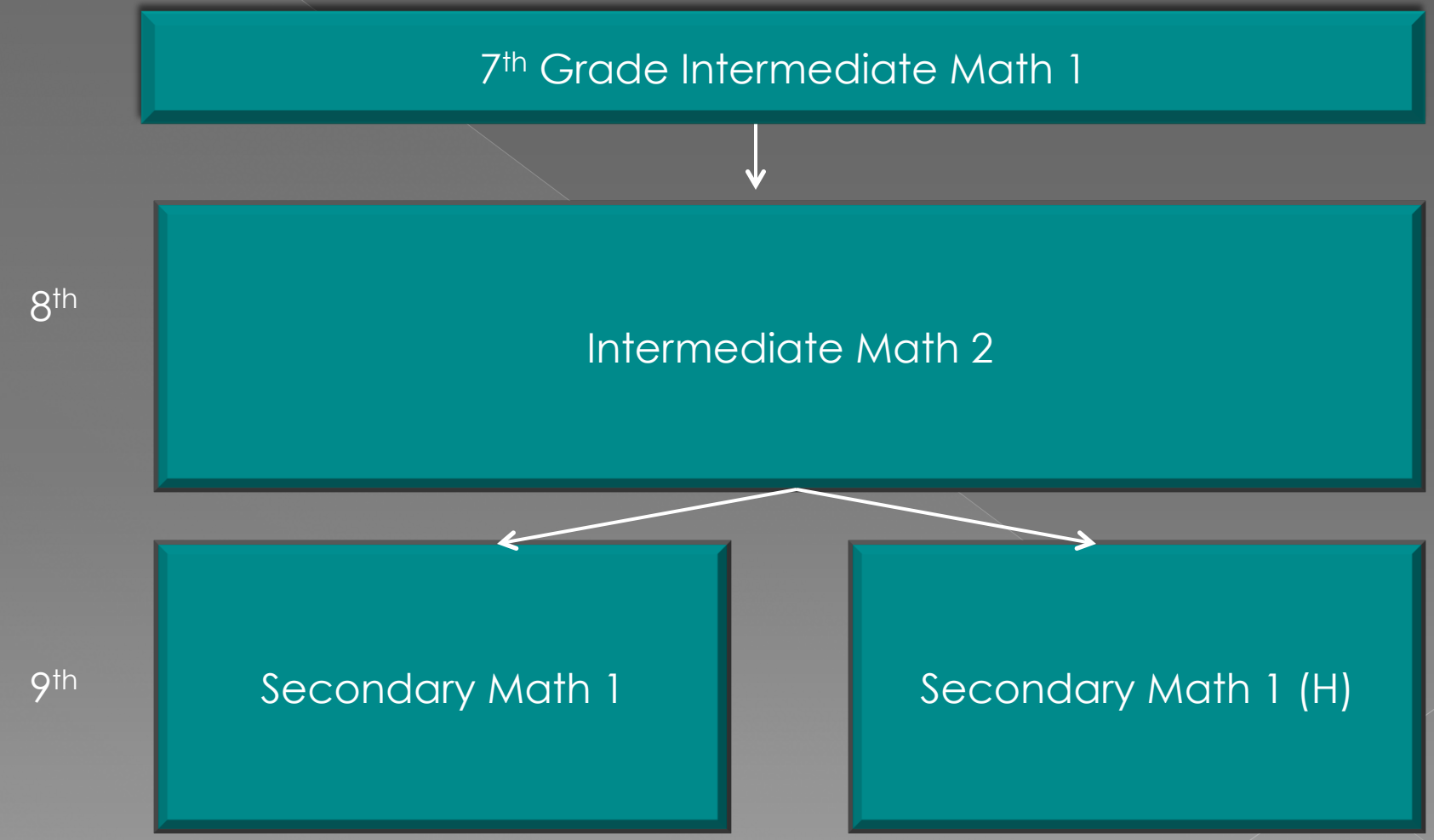
Click for **Math After Vista Heights**

Intermediate Math 1



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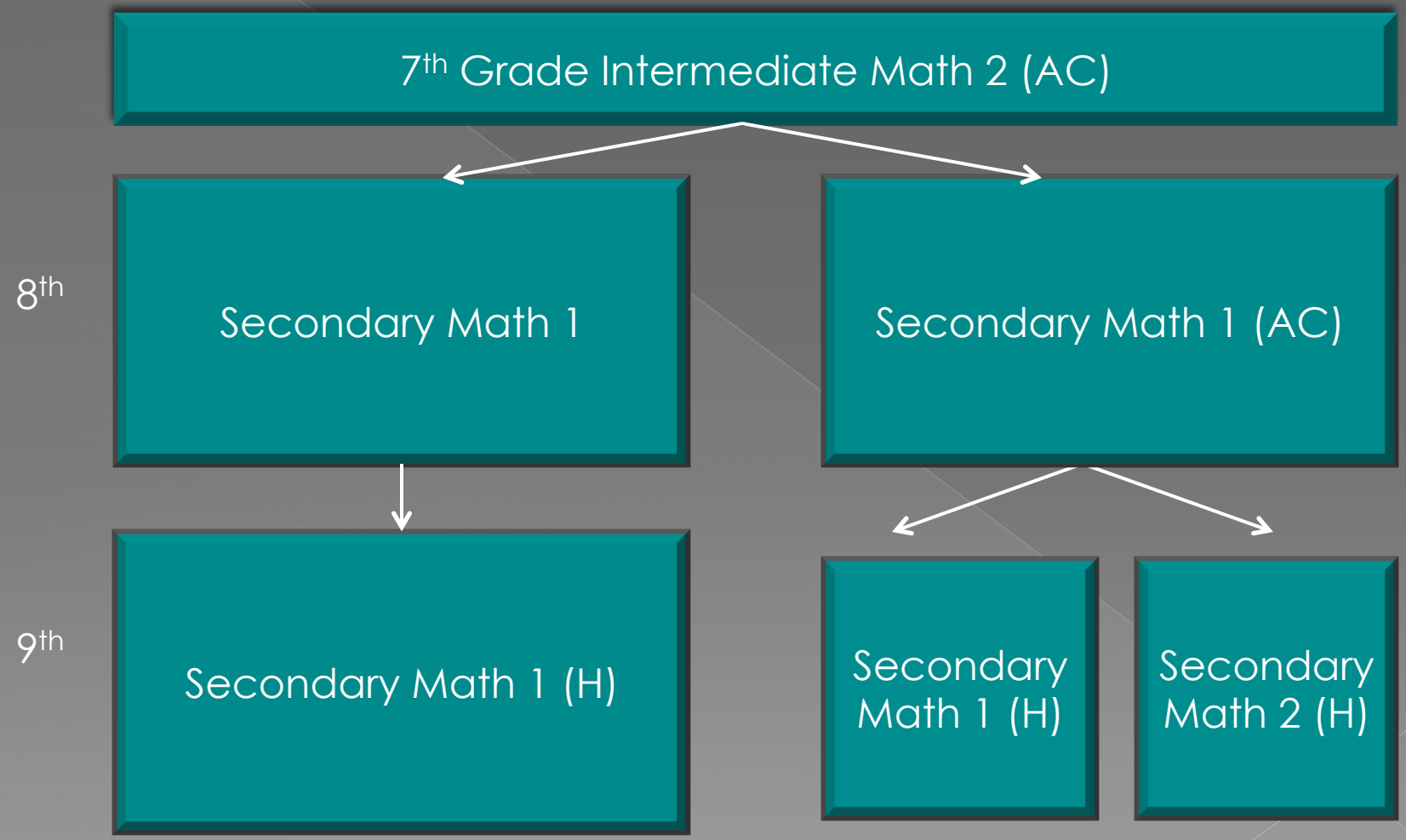
Click for **Math After Vista Heights**

Intermediate Math 2 (AC)



Return to **Where am I going?**

Click for **Math After Vista Heights**

What are my options in high school?

- Secondary Mathematics 1-3: This course is designed to be taken by high school students, and it is based upon concepts from the new Utah Core for 9^{th}-12^{th} grade mathematics.
- Pre-Calculus: This course furthers students' algebra skills while preparing students for Calculus.
- Calculus (Non-AP): This Non-AP course is focuses on teaching students about functions, limits, derivatives, integrals, and series.
- AP Calculus (AB or BC): This AP course is focuses on teaching students about functions, limits, derivatives, integrals, and series.
- AP Statistics: This AP course focuses student learning on collecting, analyzing, organizing, and interpreting data.
- College Prep: This course prepares students for college mathematics.
- Consumer Math: This course teaches students everyday life skills that require mathematics.

Return to **Where am I going?**

Click for **High School Track**

High School Tracks

9th	Sec. Math 1	Sec. Math 1 (H)	Sec. Math 2 (H)
10th	Secondary Math 2	Secondary Math 2 (H)	Secondary Math 3 (H)
11th	Secondary Math 3	Secondary Math 3 (H)	Precalculus, AP Calculus, or AP Statistics
12th	Precalculus or AP Statistics	AP Calculus or AP Statistics	AP Calculus or AP Statistics

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Click to **End Slide Show**