The mission of the Chardon Local Schools is high achievement for all students where learning is our most important work.

Course of Study — MATH
Revised November 2021
MATH MODELING

Math Modeling

Strand: Introduction to Number Theory

Learning Standard:	How Taught? Teaching activities may include, but are not limited to:
• I can use rules of divisibility to classify numbers as either prime or composite. • I can write the Fibonacci Sequence and use its ratios to develop the Golden Ratio. • I can take linear measurements of objects to determine whether their ratios produce the golden ratio.	• Direct Instruction • Cooperative Groups • Stations • Data Driven Instruction • Scaffolding

Materials:	How Assessed? Assessments may include, but are not limited to:
• Texas Instrument Graphing Calculator • Chromebook • AP Classroom	• Pre-Assessments (pre-tests, observation, anticipation guide, questioning, diagnostics) • Formative Assessments (entry/exit slips, group work, reflections, discussions, writer's workshops, homework/classwork, self and peer evaluations, observations, conferences, rubrics) • Summative Assessments (formal essays, using rubrics; tests/exams, projects, creative assignments, presentations)
	How Re-Taught? **Re-teaching activities may include, but are not limited to:** • breaking down concept into smaller components • presenting the information again in a different way

Math Modeling

	- Universal Design for Learning principles offering students opportunities to experience and engage material in new and different way - practice activities such as computer tutorials, games, hands-on activities - review sessions

Math Modeling

Strand:Introduction to Personal Finance

Learning Standard:	How Taught?
- I can identify my "Financial Personality" which will help me understand my attitude toward money. - I can explain how longevity affects one's short- and long-term finances, economic decisions, and social impacts. - I can research various ways to invest money and model future earnings, and be aware of scams. - I can explore my own retirement planning with various online financial predictive tools. - I can apply the Truth in Lending Act to understand the impact of interest on personal finance decisions. - I can explain the benefits and drawbacks of using cash versus credit. - I can explain how one's credit is established, changes over time, and is affected by using different forms of credit. - I can research mortgage rates as I explore home ownership around the country.	**Teaching activities may include, but are not limited to:** - Direct Instruction - Cooperative Groups - Stations - Data Driven Instruction - Scaffolding
Materials: - Texas Instrument Graphing Calculator - Chromebook	**How Assessed?** **Assessments may include, but are not limited to:** - Pre-Assessments (pre-tests, observation, anticipation guide, questioning, diagnostics) - Formative Assessments (entry/exit slips, group work, reflections, discussions, writer's workshops,

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| | homework/classwork, self and peer evaluations, observations, conferences, rubrics)
● Summative Assessments (formal essays, using rubrics; tests/exams, projects, creative assignments, presentations) |
| | **How Re-Taught?**
Re-teaching activities may include, but are not limited to:
● breaking down concept into smaller components
● presenting the information again in a different way
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● practice activities such as computer tutorials, games, hands-on activities
● review sessions |

COS — MATH — *Revised November 2021*

Math Modeling

Strand: Linear Relationships

Learning Standard:	How Taught?
1. I can solve applications involving linear relationships.	**Teaching activities may include, but are not limited to:**
2. I can apply ratio, proportion, and variations as I solve applications.	● Direct Instruction
3. I can model two-variable linear relationship applications as equations and graphically (including technology).	● Cooperative Groups ● Stations ● Data Driven Instruction ● Scaffolding
4. I can write and solve a system of linear equations by graphing, substitution method, elimination method and/or determinant.	
5. I can determine the Least Squares Regression Line (LSRL) of a scatter plot, explain the correlation coefficient, and describe the meaning of the slope and y-intercept in context.	
6. I can research two data variables that will have a linear relationship, produce their LSRL, and describe the meaning of the relationship in context, including making predictions. .	
7. I can find and analyze the meaning of the break-even point in a Cost-Revenue application.	
Materials:	**How Assessed?**
● Texas Instrument Graphing Calculator ● Chromebook	**Assessments may include, but are not limited to:** ● Pre-Assessments (pre-tests, observation, anticipation guide, questioning, diagnostics) ● Formative Assessments (entry/exit slips, group work, reflections, discussions, writer's workshops, homework/classwork, self and peer

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| | evaluations, observations, conferences, rubrics)
● Summative Assessments (formal essays, using rubrics; tests/exams, projects, creative assignments, presentations) |
| | **How Re-Taught?**
Re-teaching activities may include, but are not limited to:
● breaking down concept into smaller components
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Math Modeling

Strand: Non-Linear Relationships

Learning Standard:
- I can solve applications involving quadratic relationships such as vertical motion and right triangle solving.
- I can analyze quadratic functions' intercepts, end behavior, max/min value.
- I can solve applications represented by a power function.
- I can solve applications involving exponential functions.
- I can use the residual plot from regression models and its Coefficient of Determination to compare which function has the best fit.
- I can research two data variables that will have a non-linear relationship, produce their scatter plot and describe the meaning of the relationship in context, including making predictions.

How Taught?
Teaching activities may include, but are not limited to:
- Direct Instruction
- Cooperative Groups
- Stations
- Data Driven Instruction
- Scaffolding

Materials:
- Texas Instrument Graphing Calculator
- Chromebook

How Assessed?
Assessments may include, but are not limited to:
- Pre-Assessments (pre-tests, observation, anticipation guide, questioning, diagnostics)
- Formative Assessments (entry/exit slips, group work, reflections, discussions, writer's workshops, homework/classwork, self and peer evaluations, observations, conferences, rubrics)
- Summative Assessments (formal essays, using rubrics; tests/exams, projects, creative assignments, presentations)

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	How Re-Taught? **Re-teaching activities may include, but are not limited to:** - breaking down concept into smaller components - presenting the information again in a different way - Universal Design for Learning principles offering students opportunities to experience and engage material in new and different way - practice activities such as computer tutorials, games, hands-on activities - review sessions