# Unit 2: Transformations of Parent Functions

Relevant Course Objectives:

CO1 (Function Transformations): Analyze the key features of function families and transform them to solve real-world problems.

CO2 (Solving Equations and Inequalities): Solve equations and inequalities and explain the reasoning using tables, graphs, expressions, and descriptions.

**Essential Question:**

**How can we write an equation to model a real world situation?**

## Week 2 September 7-11

**Tuesday - Section 1.1.2**

• Fully Describing Graphs
• Review Sketching Quadratic Functions

Notes: Domain and Range

HW1: Ch. 1 #13, 15, 20, 21 (1.1.1)

**Wednesday - Section 2.1.2**

• Vertical and Horizontal Shifts of Quadratic Functions

Notes: How to Factor Quadratic Expressions, How to Sketch Quadratic Functions

HW 2: Ch. 2 #35, 36, 38, 40, 41 (2.1.3)

**Friday - Section 2.1.3**

• Quadratic Transformations (2-30, 2-31, 2-33)

Notes: Graphing Form

HW 3: Ch. 2 #23, 25 (2.1.2) and 39 (2.1.3)

**Unit 2 Assessments:**

Formative: Flowing Water Group Project (estimated to be September 18)

Summative: Unit 2 Test (estimated to be the week of October 5)

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**Essential Question:**

**How can we write an equation to model a real world situation?**

## Week 3 September 14-18

**Tuesday - Section 2.1.4**

• Standard Form to Graphing Form (Completing the Square)

Notes: Completing the Square

HW 4: Ch. 2 #50, 51, 57, 60 (2.1.4)

**Wednesday - Section 2.1.5**

• Modeling Quadratic Situations with Equations

Notes: Curve Fitting with Quadratics

HW 5: Ch. 2 #69, 70, 71, 72, 74

**Friday - Formative Assessment**

• Flowing Water Group Project

HW: Finish Project Write-Up

**Unit 2 Assessments:**

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**Essential Question:**

**How can we write an equation to model a real world situation?**

## Week 4 September 21-25

**Tuesday - Section 2.2.1**

• Transforming Other Parent Graphs

HW 6: Ch. 2 #81, 82, 83, 84, 85, 86 (2.2.1)

**Wednesday - Section 2.2.2**

• Locator Points for each Family of Functions

Notes: Function Family Transformations

HW 7: Ch. 2 #107, 108, 109, 113, 114 (2.2.2)

**Friday - Section 2.2.3**

• Transformations of Functions

Notes: Even and Odd Functions

HW 8: Ch. 2 #126, 127, 128, 131 (2.2.3)

**Unit 2 Assessments:**

Formative: Flowing Water Group Project (estimated to be September 18)

Summative: Unit 2 Test (estimated to be the week of October 5)

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Relevant Course Objectives:

CO1 (Function Transformations): Analyze the key features of function families and transform them to solve real-world problems.

CO2 (Solving Equations and Inequalities): Solve equations and inequalities and explain the reasoning using tables, graphs, expressions, and descriptions.

**Essential Question:**

**How can we write an equation to model a real world situation?**

## Week 5 September 28 - October 2

**Tuesday - Section 2.2.4**

• Transforming Non-Functions

HW 9: Ch. 2 #125 (2.2.3), 139, 142, 144, 152 (2.2.4)

**Wednesday - Unit 2 Closure**

• Review of Unit 2

HW: Work on the Unit 2 Study Guide (will be checked for completion but **not** for a grade)

**Friday - Start Unit 3**

**Unit 2 Assessments:**

Formative: Flowing Water Group Project (estimated to be September 18)

Summative: Unit 2 Test (estimated to be the week of October 5)