| Teacher: Rachel Wraley | Lesson # in unit: 1 | Subject/Course Title: Algebra Repeat | Date: |

Measurable Lesson Objectives and Assessment of the objectives

By the end of the class session, student will be able to:

Recognize and Compare and Contrast Linear and Quadratic Functions and their graphs.

Content Objectives:

Graphing Quadratic Functions.

Academic Language Objectives:

Important vocabulary: Linear Functions, Quadratic Functions, vertex, point, slope, transformations

Why does this lesson matter?

In different professions (for example engineering) different type of functions are used to solve problems regularly. Students need to know the different type of functions in order to choose which one is the best function for modeling a specific situation.

Assessment Statement: How will students show they have met the objective?

Students are turning in their graphing notebooks later in the course, and they are completing a Function activity demonstrating these skills.

Specific Standard Indicators Aligned with this Lesson:

- **A1.QE.3**: Graph exponential and quadratic equations in two variables with and without technology.
- **AI.QE.5**: Represent real-world problems using quadratic equations in one or two variables and solve such problems with and without technology. Interpret the solution and determine whether it is reasonable.

Supporting Diverse Learners

I plan to support diverse learners by creating a graphing notebook. In this notebook they will start every new function/graph page with the parent function, and then write all the transformations that can be applied to the parent. This way the students are writing down information that they deem important for their learning.

I also plan to check my ELL student's notebooks to ensure they can use and the essential vocabulary.

Method(s) for Instruction

Grouping Strategies:

Class/Group Discussion
Cooperative Learning
Small Group
Guided Practice
Lab
Lecture or Direct Instruction
Question/Answer
Learning Stations
Readers/Writers Workshop

Teacher Modeling/Demo.
Journal writing
Role Play
Hands-on
Inquiry Learning
Game
Simulation/Role Playing
Independent Learning
Other

Lesson Agenda

Warm up: How will you support students in accessing prior knowledge, personal, real world and/or cultural connections?

I plan to support student's prior knowledge by linking the graphing of Quadratic Functions to Linear Functions.

Time	Teacher Will Be:	Students Will Be:	
1-5 minutes Welcome/Bellwork	I will be welcoming the students and getting them started on the Bellwork. Walking around keeping students on task.	Working on their Bellwork.	
6-10 minutes Wrapping up Bellwork	I will be leading the students in discussion over their peers work on the board. I asks students if they agree or disagree, and what they would have done differently if they disagree.	Participating in the "discussion" of the bellwork.	

11-20 minutes Quick Review of Linear Functions Graphing Notebook	I will ask the students what information is needed to graph a Linear Function. Then I will have the students step we through graphing a Linear Function. After that I will have the students start their Graphing Notebooks. As they walked into the classroom at the beginning of the period they picked up a packet that is their Graphing Notebook. It has both blank pages and graph paper together so they can write and solve functions of the blank pages, and then graph them on the graph paper.	They will be participating in the quick review and preparing their Graphing Notebook for functions and graphs.
21- 45minutes Lesson: Graphing Quadratic Functions	I will lead the students in some direct instruction and guided Practice of solving and graphing Quadratic Functions.	Taking notes in their Graphing Notebook.
46- 50 minutes Exit Slip	I will start wrapping up the class and ask the students to quickly free write about Quadratic Functions. I will ask them to write about different topics including: the similarities and differences between Linear and Quadratic Functions, and whether Linear or Quadratic Functions seem easier to graph and why?	Students will reflect on solving and graphing Quadratic Functions.

Closing: Wrap up and Assessment *How do you know your students met your lesson objective(s) and to what extent?*
I will have the students do a quick write about how they feel about solving and graphing Quadratic Functions, and they will be turning in their Graphing Notebooks.

Daily Assessment
Higher Order Thinking Addressed Today:
☒ knowledge
☒ comprehension
☒ application
☒ analysis
☐ synthesis
☐ evaluation

What would it take to move students from recall into higher order thinking?

Formative Assessment:
☒ Class discussion
☒ Entrance/Exit slip
☒ Teacher Observe
☐ Listened to conversations
☐ Quiz
☐ Thumbs up, neutral, or down
☐ Homework check
☐ Video quiz
☐ Voting
☐ Whiteboard Check
☐ Other _____

Summative Assessment:
☐ Test
☐ Project
☐ Report
☐ Presentation
☐ Final Exam
☐ Other _____

Preparation Needed for this Lesson:
Materials: Day 1 Bellwork, Graphing Notebooks
Technology:
Copy: Day 1 Bellwork
Locate:
Safety Considerations:

Reflection: *What did I learn through teaching this lesson? What do I want to remember the next time I teach this lesson? How will assessment data from today's lesson impact tomorrow's teaching?*

Teacher: Rachel Wraley	Lesson # in unit: 2	Subject/Course Title: Algebra Repeat	Date:

Measurable Lesson Objectives and Assessment of the objectives

By the end of the class session, student will be able to:

Recognize and Compare and Contrast Linear, Quadratic, and Exponential Functions and their graphs.

Content Objectives:

Graphing Exponential Functions.

Academic Language Objectives:

Important vocabulary: Linear Functions, Quadratic Functions, Exponential Functions, exponent, vertex, point, slope, transformations

Why does this lesson matter?

In different professions (for example engineering) different type of functions are used to solve problems regularly. Students need to know the different type of functions in order to choose which one is the best function for modeling a specific situation.

Assessment Statement: How will students show they have met the objective?

Students are turning in their graphing notebooks later in the course, and they are completing a Function activity demonstrating these skills.

Specific Standard Indicators Aligned with this Lesson:

- **A1.QE.3**: Graph exponential and quadratic equations in two variables with and without technology.

Supporting Diverse Learners

I plan to support diverse learners by creating a graphing notebook. In this notebook they will start every new function/graph page with the parent function, and then write all the transformations that can be applied to the parent. This way the students are writing down information that they deem important for their learning.

I also plan to check my ELL student's notebooks to ensure they can use and the essential vocabulary.

Method(s) for Instruction

Grouping Strategies:

<mark>Class/Group Discussion</mark>
Cooperative Learning
Small Group
<mark>Guided Practice</mark>
Lab
Lecture or Direct Instruction
<mark>Question/Answer</mark>
Learning Stations
Readers/Writers Workshop

Teacher Modeling/Demo.
Journal writing
Role Play
Hands-on
Inquiry Learning
Game
Simulation/Role Playing
Independent Learning
Other

Lesson Agenda

Warm up: **How will you support students in accessing prior knowledge, personal, real world and/or cultural connections?**

I plan to support student's prior knowledge by linking the graphing of Exponential functions to that of Linear and Quadratic Functions.

Time	Teacher Will Be:	Students Will Be:
1-5 minutes Welcome/Bellwork	I will be welcoming the students and getting them started on the Bellwork. I will be walking around keeping students on task and returning their Graphing Notebook.	Working on their Bellwork.
6-10 minutes Wrapping up Bellwork	I will be leading the students in discussion over their peers work on the board. I asks students if they agree or disagree, and what they would have done differently if they disagree.	Participating in the "discussion" of the bellwork.

11-15 minutes Getting ready for the Lesson	I will ask the students what a Quadratic Functions is, what its graph looks like, and what important information we need to solve and graph a Quadratic Function.	They will be preparing their Graphing Notebooks that I passed out during Bellwork, and participating in our quick discussion/review of Quadratic Functions.
16-45minutes Lesson: Graphing Exponential Functions	I will lead the students in some direct instruction and guided Practice of solving and graphing Exponential Functions.	Taking notes in their Graphing Notebook.
46- 50 minutes Exit Slip	I will start wrapping up the class and ask the students to quickly free write about Exponential Functions. I will ask them to write about different topics including: the similarities and differences between Linear, Quadratic, and Exponential Functions, whether Linear, Quadratic or Exponential Functions seem easier to graph, and why.	Students will reflect on solving and graphing Exponential Functions.

Closing: Wrap up and Assessment *How do you know your students met your lesson objective(s) and to what extent?*
I will have the students do a quick write about how they feel about solving and graphing Exponential Functions, and they will be turning in their Graphing Notebooks.

Daily Assessment
Higher Order Thinking Addressed Today:
☒ knowledge
☒ comprehension
☒ application
☒ analysis
☐ synthesis
☐ evaluation

What would it take to move students from recall into higher order thinking?

Formative Assessment:
☒ Class discussion
☒ Entrance/Exit slip
☒ Teacher Observe
☐ Listened to conversations
☐ Quiz
☐ Thumbs up, neutral, or down
☐ Homework check
☐ Video quiz
☐ Voting
☐ Whiteboard   Check
☐ Other _____

Summative Assessment:
☐ Test
☐ Project
☐ Report
☐ Presentation
☐ Final Exam
☐ Other _____

Preparation Needed for this Lesson:
Materials: Day 2 Bellwork, Graphing Notebooks
Technology:
Copy: Day 2 Bellwork
Locate:

Safety Considerations:

Reflection: *What did I learn through teaching this lesson? What do I want to remember the next time I teach this lesson? How will assessment data from today's lesson impact tomorrow's teaching?*

| Teacher: Rachel Wraley | Lesson # in unit: 3 | Subject/Course Title: Algebra Repeat | Date: |

Measurable Lesson Objectives and Assessment of the objectives

By the end of the class session, student will be able to:

Recognize and Compare and Contrast Linear and Quadratic Functions and their graphs.

Content Objectives:

Graphing Quadratic Functions.

Academic Language Objectives:

Important vocabulary: Linear Functions, Quadratic Functions, Exponential Functions, vertex, point, slope, transformations, base, exponent

Why does this lesson matter?

In different professions (for example engineering) different type of functions are used to solve problems regularly. Students need to know the different type of functions in order to choose which one is the best function for modeling a specific situation.

Assessment Statement: How will students show they have met the objective?

Students are turning in their graphing notebooks later in the course, and they are completing a Function activity demonstrating these skills.

Specific Standard Indicators Aligned with this Lesson:

- **A1.QE.3**: Graph exponential and quadratic equations in two variables with and without technology.
- **AI.L.4**: Represent linear functions as graphs from equations (with and without technology), equations from graphs, and equations from tables and other given information (e.g., from a given point on a line and the slope of the line).
- **AI.QE.1**: Distinguish between situations that can be modeled with linear functions and with exponential functions. Understand that   linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. Compare linear functions and exponential functions that model real-world situations using tables, graphs, and equations.
- **AI.QE.5**: Represent real-world problems using quadratic equations in one or two variables and solve such problems with and without technology. Interpret the solution and determine whether it is reasonable.

Supporting Diverse Learners

I plan to support diverse learners by creating a graphing notebook. In this notebook they will start every new function/graph page with the parent function, and then write all the transformations that can be applied to the parent. This way the students are writing down information that they deem important for their learning.

I also plan to check my ELL student's notebooks to ensure they can use and the essential vocabulary.

Method(s) for Instruction

Grouping Strategies:

Class/Group Discussion
Cooperative Learning
Small Group
Guided Practice
Lab
Lecture or Direct Instruction
Question/Answer
Learning Stations
Readers/Writers Workshop

Teacher Modeling/Demo.
Journal writing
Role Play
Hands-on
Inquiry Learning
Game
Simulation/Role Playing
Independent Learning
Other

Lesson Agenda

Warm up: **How will you support students in accessing prior knowledge, personal, real world and/or cultural connections?**

I plan to support student's prior knowledge by linking the graphing of Exponential functions to that of Linear and Quadratic Functions.

Time	Teacher Will Be:	Students Will Be:
1-5 minutes Welcome/Bellwork	I will be welcoming the students and getting them started on the Bellwork.	Working on their Bellwork.

	I will be walking around keeping students on task.	
6-10 minutes Wrapping up Bellwork	I will be leading the students in discussion over their peers work on the board. I asks students if they agree or disagree, and what they would have done differently if they disagree.	Participating in the "discussion" of the bellwork.
11-15 minutes Activity Directions	I will start by handing out the Function Deciphering Paper, then I will read through the directions and answer any questions. I will finish by assigning groups of 4 that they students will work in for the activity. Once they are with their group members I will pass out the necessary supplies and materials.	They will move and join their group after listening to the directions.
21- 40minutes Activity: Function Deciphering	I will walk around the classroom facilitating the activity.	They will be working on their activity.
41-45 minutes	I will stop the activity and start the cleanup process. This means getting supplies and materials collected back and having the students turn in their work.	They will turn in their work and clean up the supplies, materials, and throwing away any trash.
46- 50 minutes Exit Slip	I will start wrapping up the class and ask the students to quickly free write about Functions. I will ask them to write about different topics including: What they learned about functions the last few days? How are functions similar? How are they different? What situations would each graph be better suited to modeling?	Students will reflect on graphing Functions.

Closing: Wrap up and Assessment *How do you know your students met your lesson objective(s) and to what extent?*
I will have the students do a quick write about how they feel about solving and graphing Linear, Quadratic, and Exponential Functions, and they will be turning in their Function Deciphering work.

Daily Assessment
Higher Order Thinking Addressed Today:
☒ knowledge
☒ comprehension
☒ application
☒ analysis
☐ synthesis
☐ evaluation

What would it take to move students from recall into higher order thinking?

Formative Assessment:
☒ Class discussion
☒ Entrance/Exit slip
☒ Teacher Observe
☐ Listened to conversations
☐ Quiz
☐ Thumbs up, neutral, or down
☐ Homework check
☐ Video quiz
☐ Voting
☐ Whiteboard   Check

Summative Assessment:
☐ Test
☐ Project
☐ Report
☐ Presentation
☐ Final Exam
☐ Other _____

	☒ Other _Function Deciphering Activity _	

Preparation Needed for this Lesson:
Materials: Day 3 Bellwork, Construction Paper, Graph Paper, scissors, glue sticks, markers, and Function Deciphering Activity Sheet
Technology:
Copy: Day 3 Bellwork, Function Deciphering Sheet
Locate:

Safety Considerations:

Reflection: *What did I learn through teaching this lesson? What do I want to remember the next time I teach this lesson? How will assessment data from today's lesson impact tomorrow's teaching?*