Grade 8 Algebra
Distance Learning Module 10: Week of: June 8th – June 12th

Algebra 1 Level 2 - *Modified from Unit G - Exponential Functions - Growth and Decay*

Targeted Goals from Stage 1: Desired Results

Content Knowledge:

CCSS.MATH.CONTENT.HSN.RN.A.2 Interpret the structure of expressions. Interpret expressions that represent a quantity in terms of its context.
CCSS.MATH.CONTENT.HSF.IF.C.7.E Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
CCSS.MATH.CONTENT.HSF.LE.A.1.A Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

Vocabulary: Exponential Function, Exponential Growth, Exponential Decay, Initial Value, Common ratio

Skills:

- Determining if growth is exponential or linear.
- Modeling exponential word problems through a function
- Graphing exponential function
- Identifying exponential growth and decay

Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or Khan Academy)
Monday: **Introduction to Exponential Functions** ● Watch Khan Academy Videos on exponential functions and how to determine if a function is linear or exponential	Instruction: Intro to exponential functions (Khan Video) Exponential vs. linear growth(Khan Video) Exponential vs. linear models: verbal (Khan Video)	Exponential vs. linear models (Assign in Khan)

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or Khan Academy)
● Khan Academy Practice	Exponential vs. linear models: Table: (Khan Video) Practice Warmup: exponential vs. linear growth (Khan)	
Tuesday: **Exponential Expressions and word problem applications** ● Watch Khan Academy Videos on exponential functions and word problem applications ● Khan Academy Practice	Instruction: Exponential expressions word problems (numerical) (Khan Video) Initial value & common ratio of exponential functions(Khan Video) Exponential expressions word problems (algebraic) (Khan Video) Interpreting exponential expression word problem (Khan Video)	Interpret exponential expressions word problems (Assign in Khan)
Wednesday: **Graphing** E**xponential Functions** ● Watch a Khan Academy Videos on graphing exponential functions ● Khan Academy Check-in	Instruction Exponential function graph (Khan Video) Graphs of exponential growth (Khan Video) Exponential vs. linear growth over time (Khan Video)	Graphs of exponential growth (Assign in Khan) Exponential vs. linear growth over time (Assign in Khan)
Thursday: E**xponential Growth vs Decay**	Instruction Exponential decay intro (Khan Video)	Graphing exponential growth & decay (Assign in Khan)

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or Khan Academy)
● Watch Khan Academy Videos on exponential growth vs decay ● Khan Academy Check-in	Graphing exponential growth & decay (Khan Video)	Writing functions with exponential decay (Assign in Khan)
Friday: **Practice / Check-in**	Practice Exponential expressions word problems (numerical) (Khan) Exponential expressions word problems algebraic (Khan) Exponential growth vs. decay (Khan)	Khan Exponential Functions Quiz 1 (Assign in Khan) Khan Exponential Functions Quiz 2 (Assign in Khan)

Week criteria for success (attach student checklists or rubrics):

1. I can determine if growth is exponential or linear.
2. I can model exponential scenarios through a function
3. I can graph an exponential function

Supportive resources and tutorials for the week (plans for re-teaching): Exponential Function Notes