***Learning Targets for Unit 5: Exponential Functions***

**Learning Target #1:** “I can apply the rules of exponents.” N-RN.1, N-RN.2

**Learning Target #2:** “I can create and graph exponential functions and use them to solve problems.” A-CED.1, A-CED.2, N-Q.2,N-Q.3, F.BF.1

**Learning Target #3:** “I can investigate the family of exponential functions through the four different representations, graph, table, equation, and situation, and I can interpret the key features/parameters.” F-IF.4, F-IF.7e, F-LE.2, F-LE.5

-From Graph to Equation; From Graph to Table; From Graph to Situation

-From Equation to Graph; From Equation to Table; From Equation to Situation

-From Table to Graph; From Table to Equations; From Table to Situation

-From Situation to Graph; From Situation to Table; From Situation to Equation

**Learning Target #4:** “I can identify exponential functions as representing growth or decay.” I-IF.8b, F-LE.1c, F-IF.6

**Learning Target #5:** “I can explain the difference between a linear function and an exponential function.” I-FI.9, F-LE.1, F-LE.1a, F-LE.3, F-IF.4

-I can compare the characteristics of a linear function and an exponential function

-I can distinguish between situations that can be modeled with linear functions and exponential functions

-I can prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.

-I can observe that a quantity increasing exponentially eventually exceeds a quantity increasing linearly.

**Learning Target #6:** “I can interpret solutions as viable (makes sense in context) or nonviable (doesn’t make sense in context) within context.” A-CED.3

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| **Learning Targets** | **Formative Assessments** | **Sum Asst** |
| #1 “I can apply the rules of exponents.” N-RN.1, N-RN.2 |  |  |  |  |  |
| #2 “I can create and graph exponential functions and use them to solve problems.” A-CED.1, A-CED.2, N-Q.2,N-Q.3, F.BF.1 |  |  |  |  |  |
| #3 “I can investigate the family of exponential functions through the four different representations, graph, table, equation, and situation, and I can interpret the key features/parameters.” F-IF.4, F-IF.7e, F-LE.2, F-LE.5 |  |  |  |  |  |
| #4 “I can identify exponential functions as representing growth or decay.” I-IF.8b, F-LE.1c, F-IF.6 |  |  |  |  |  |
| #5 “I can explain the difference between a linear function and an exponential function.” I-FI.9, F-LE.1, F-LE.1a, F-LE.3, F-IF.4 |  |  |  |  |  |
| #6 “I can interpret solutions as viable (makes sense in context) or nonviable (doesn’t make sense in context) within context.” A-CED.3 |  |  |  |  |  |
| **Learning Targets** | **Practice Problems- Circle the ones you have completed** |
| #1 “I can apply the rules of exponents.” N-RN.1, N-RN.2 | 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-12, 3-13, 3-14, 3-15, 3-16, 3-18, 3-19, 3-20, 7-12, 7-45, 7-46, 7-74, 7-75, 7-82, 7-83, 7-84, 7-90, 7-97, 7-100, CL 7-114, CL 7-115 |
| #2 “I can create and graph exponential functions and use them to solve problems.” A-CED.1, A-CED.2, N-Q.2,N-Q.3, F.BF.1 | 7-30, 7-31, 7-32, 7-34, 7-37, 7-38, 7-48, 7-63, 7-70, 7-71, 7-73, CL7-117 |
| #3 “I can investigate the family of exponential functions through the four different representations, graph, table, equation, and situation, and I can interpret the key features/parameters.” F-IF.4, F-IF.7e, F-LE.2, F-LE.5 | 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 7-14, 7-20, 7-21, 7-23, 7-24, 7-25, 7-36, 7-43, 7-59, 7-62, 7-67, 7-68, 7-69, 7-70, 7-71, 7-81, 7-85, 7-87, 7-93, 7-94, 7-95, 7-96, 7-99, 7-106, CL 7-112 |
| #4 “I can identify exponential functions as representing growth or decay.” I-IF.8b, F-LE.1c, F-IF.6 | 7-1, 7-20, 7-24, 7-42, 7-43, 7-44, 7-48, 7-63, 7-67, 7-68, 7-69, 7-71, 7-73, 7-105 |
| #5 “I can explain the difference between a linear function and an exponential function.” I-FI.9, F-LE.1, F-LE.1a, F-LE.3, F-IF.4 | 7-30, 7-35, 7-79 and 7-80, 7-92 |
| #6 “I can interpret solutions as viable (makes sense in context) or nonviable (doesn’t make sense in context) within context.” A-CED.3 | 7-30, 7-31, 7-32, 7-33, 7-34, 7-35, 7-37, 7-38, 7-48, 7-105, CL 7-117, CL 7-120 |