Name_____Date_____

Identifying Domain and Range
Lesson Plan

Lesson Overview: In this lesson, students will identify the domain and range of situations that can be modeled with linear, quadratic, or exponential functions and write the domain and range using inequality notation. TEKS: **A.2A**, **A.6A**, A.9A

	Procedures	Facilitation Questions	Advance Preparation
Engage	• Play the video for the class. • Have students discuss possible solutions. • Have students share their predictions and reasoning with the class.	• In what order do you need to perform the operations? • How could a table with a process column help you record your results?	None
Explore	• Have students work in pairs or small groups. • Play the video for the class. Pause the video to allow students to complete the activity. • Display and or provide a copy of the **Explore Activity Sheet** for students. • Have students complete the activity sheet as you ask facilitation questions. • Resume the video to debrief the Explore.	• What type of function does this equation model? How do you know? • What is the maximum value for the function? How do you know? • Does it make sense to have negative numbers in the context of the situation? Why? • How can you tell if you should use $<$ or $\leq$? • Does your domain or range include the boundary point? How do you know?	• If desired make a copy of the **Explore Activity Sheet** for each student. • Graphing calculator
Explain	• Display, discuss, and/or provide a copy of the **Explore Activity Sheet Answers** for students. • Play the video to make connections about domain and range, as well as formalize inequality notation. • Pause the video for a **Math Journal** entry, then resume the video for a sample entry.	• What limits on x or y do you see in the graph? • For the situation, will the graph extend into other quadrants? How do you know?	• Access to Math Journals
Elaborate	• Play the video. Pause the allow students to complete the activity. • Provide student groups (2 to 3 students each) with one set of pre-cut cards. Have students use the cards to identify the domain and range represented on each graph. • Display answer key, if desired. • Have students cut up and glue/tape graphs and the domain/range cards in their **Math Journal**.	• If the point is represented with an open circle, will it be included in the domain or range? How do you know? • If the point is represented with a closed circle, will it be included in the domain or range? How do you know? • What maximum or minimum points do you observe in the graph? • Will the maximum or minimum values define the domain or the range? How do you know?	• Make a copy of the **Elaborate Activity Sheet** (at least the cards) on blank paper for each student. • Access to **Math Journals** • Make one set of cards for each student group on cardstock. • scissors • glue or tape
Evaluate	• Display the questions or provide a printed copy of the **Evaluation Questions** for each student. • Have students solve the problems in their **Math Journal**.		• Access to Math Journals • If desired make a copy of the **Evaluation Questions** for each student.