

UNIT 6 • DESCRIBING DATA

Lesson 2: Working with Two Variables

Problem-Based Task 6.2.2: Movie Buzz

Word of mouth can be a great way to increase a movie's popularity. A movie theater released a movie. On the first day, only 5 people saw the movie. They all loved it, and each told at least 5 more people to go see the movie. The second day of the movie's release, many of the people who had been told to see the movie went to the theater. Each day, each person who viewed the movie told approximately 5 other people to go to the theater. The following table shows the number of people who viewed the movie in its first 4 days.

SMP	
1	2
3 ✓	4 ✓
5 ✓	6
7	8

Day	Number of viewers
1	5
2	27
3	124
4	626

Create a scatter plot showing the number of viewers each day the movie played at the theater. Which type of function would best approximate the data? Two theater employees each try to determine an equation to fit the data. One thinks that the equation $y = 5^x$ is a good fit for the data; the other thinks the equation $y = 200x - 200$ is a good fit for the data. Which equation is a better fit? If this trend continues, approximately how many people will see the movie on the fifth day of the movie's release?

