

Comparing Tables, Box Plots, and M.A.D.

The tables show the ten movies that took in the most money in 2012 and 2013. Sales are in dollars rounded to the nearest million.

2012 Top-Grossing Movies

Movie	Gross
Marvel's <i>The Avengers</i>	623
<i>The Dark Knight Rises</i>	448
<i>The Hunger Games</i>	408
<i>Skyfall</i>	304
<i>The Hobbit: An Unexpected Journey</i>	303
<i>Twilight Saga: Breaking Dawn Part 2</i>	292
<i>The Amazing Spider-Man</i>	262
<i>Brave</i>	237
<i>Ted</i>	219
<i>Madagascar 3: Europe's Most Wanted</i>	216

2013 Top-Grossing Movies

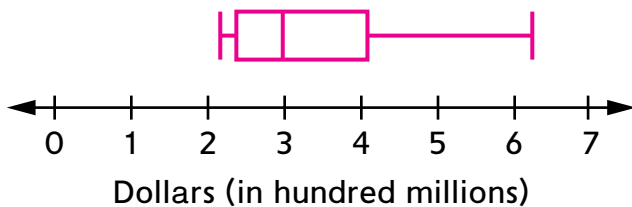
Movie	Gross
<i>The Hunger Games: Catching Fire</i>	425
<i>Iron Man 3</i>	409
<i>Frozen</i>	400
<i>Despicable Me 2</i>	368
<i>Man of Steel</i>	291
<i>Gravity</i>	274
<i>Monsters University</i>	268
<i>The Hobbit: The Desolation of Smaug</i>	258
<i>Fast & Furious 6</i>	239
<i>Oz the Great and Powerful</i>	235

- 1 Which year do you think had greater variability in movie earnings? Explain.

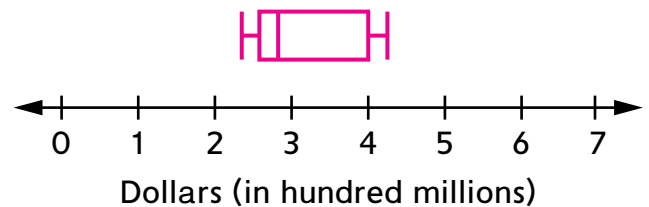
Sample answer: Probably 2012 because the range is larger.

- 2 Make a box plot for each year.

2012 Top-Grossing Movies



2013 Top-Grossing Movies



- 3 Use your box plots to explain which year you now think had greater variability.

Sample answer: The variability was greater in 2012. The length of the sections of the box and the whiskers are longer.

- 4 The mean value rounded to the nearest million is \$331 for 2012 and \$317 for 2013. Find the mean absolute deviation (to the nearest million) for each year.

2012: **\$97**

2013: **\$67**