

The relative strength of a bond between two places is determined by multiplying the population of place A by the population of place B and then dividing the product by the distance between the two places squared.

$$\frac{\text{population}_1 \times \text{population}_2}{\text{distance}^2}$$

To find the distance between two places, use the Distance Calculator:

<http://www.geobytes.com/CityDistance.htm>

To find the populations of smaller cities, use the Population Calculator

<http://www.city-data.com/>

To find the populations of larger cities use this site with MSA Population Data

http://www.citypopulation.de/USA-Metro.html#Stadt_gross

YOUR ASSIGNMENT

1. Choose 1 place
2. Choose 3 other places that you'd like check and compare the connection strength to, that is, *check the gravity*.
3. Do the calculations.
4. Summarize your findings in a single paragraph of analysis.
5. Represent your findings in graphically.

___1. The gravity model could reasonably be used to predict all of the following EXCEPT:

- a. the flow of cars between towns
- b. the number of emails sent from Tokyo to London
- c. the distribution of car dealerships in an urban area
- d. the tonnage of exports between China and Japan
- e. the volume of cargo between New York City and Los Angeles

___2. The gravity model would predict that the interaction between two places would be increased by which of the following?

- a. out-migration from a place
- b. improvement in transportation between places
- c. an increase in the price of internet and other communication services
- d. reallocation of internet and communication services
- e. substitutions in goods and services between places.

___3. According to the gravity model, which of the following pairs of cities would most likely exchange the greatest number of migrants?

- a. Chicago and New York
- b. Boston and Los Angeles
- c. Little Rock and Salt Lake City
- d. Memphis and Atlanta
- e. Seattle and Dallas

___4. The gravity model is used to predict interaction between two locations. Demographers use it to predict migration (as their form of interaction) based on what two characteristics?

- a. population and distance
- b. distance and intervening obstacles
- c. intervening obstacles and wealth
- d. wealth and population
- e. education and level of development