

Dominant/Non- Dominant Hand Experiment for Mean, Median, and Mode

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It is a known fact that students retain more of what they learn if they are actively involved in the learning process. I have found that students enjoy the Dominant/non-dominant hand experiment. They even become competitive and joke with each other, especially if someone is ambidextrous. The students “X” out as many circles as they can in five, ten, fifteen, and twenty seconds with their dominant hand and non-dominant hand. Then, they write their scores on post-it posters around the room. We copy the scores for the eight categories as they are written on the posters. We then make a table for one category, putting the scores in order. I demonstrate mean, median, and mode for this category. The students are then instructed to find mean, median, and mode for each of the seven remaining categories, listing also the total, and how the answers are calculated. I also sometimes have them turn in two histograms which may be done on computer or by hand, one for dominant and one for non-dominant hand.

We teach mean, median, and mode in our beginning developmental math course. These students are the ones who traditionally have difficulty in math. I find that they not only have fun with this experiment, but excel at their interpretation of the data. More importantly, they remember the concepts when it comes time for testing.

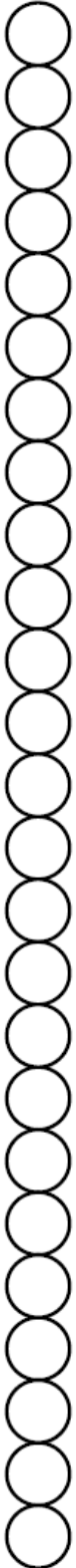
When I have had a disabled student in the class who has limited arm or hand agility, I have discussed the experiment with the student privately. I have given the student various options, such as using one hand twice, not writing the scores on the posters, making up a common score, or even not doing the experiment at all. I leave the decision up to the student. Most of the time, they feel comfortable enough to participate in the experiment. After all, the scores are only important as data, not as a sign of intelligence. The students find the experiment to be completely non-threatening and a lot of fun. When asked, they tell me they prefer this experiment to one with M & Ms, even when allowed to eat the candies later.

These concepts may be extended for use in classes involving statistics or psychological tests and measurements. Several friends and my husband have used this as a base experiment in a Statistics class and developed later concepts, such as variance and standard deviation using and reusing the same data.

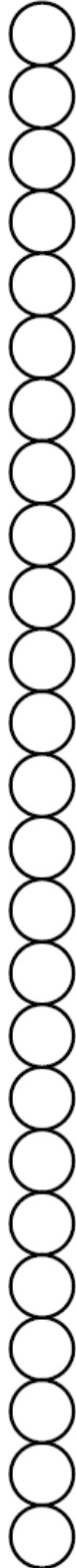
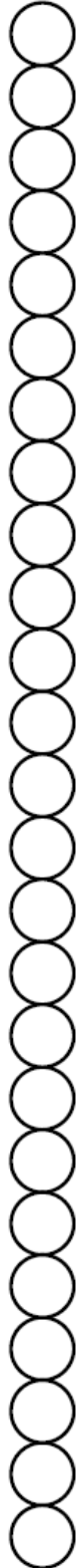
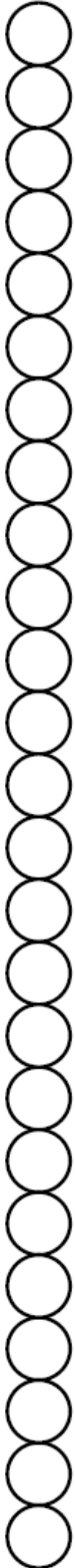
The experiment itself is not my creation. It was given to me by a professor of one of my graduate classes. He had taken it from a book. It is not so much the experiment as how I have developed using it in my classes.

DOMINANT (right / left) HAND

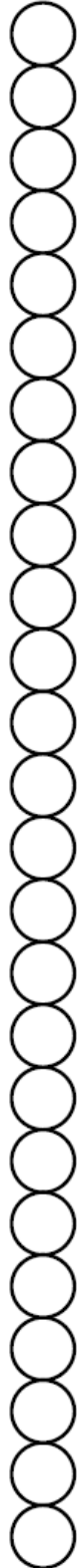
5 sec



10 sec

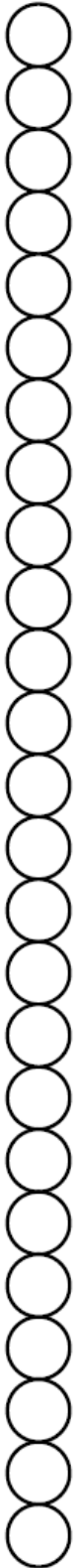


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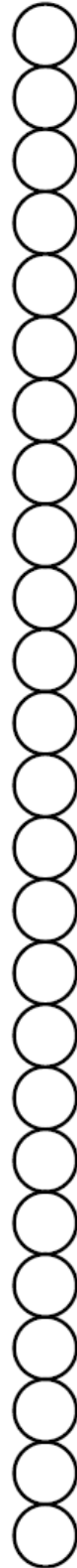
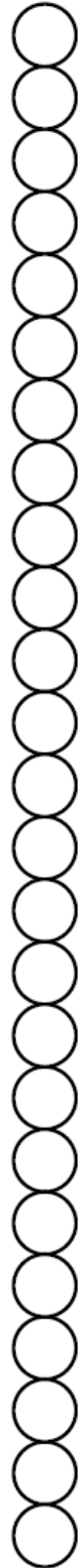
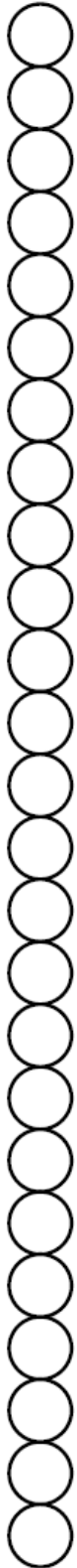


NON-DOMINANT (right / left) HAND

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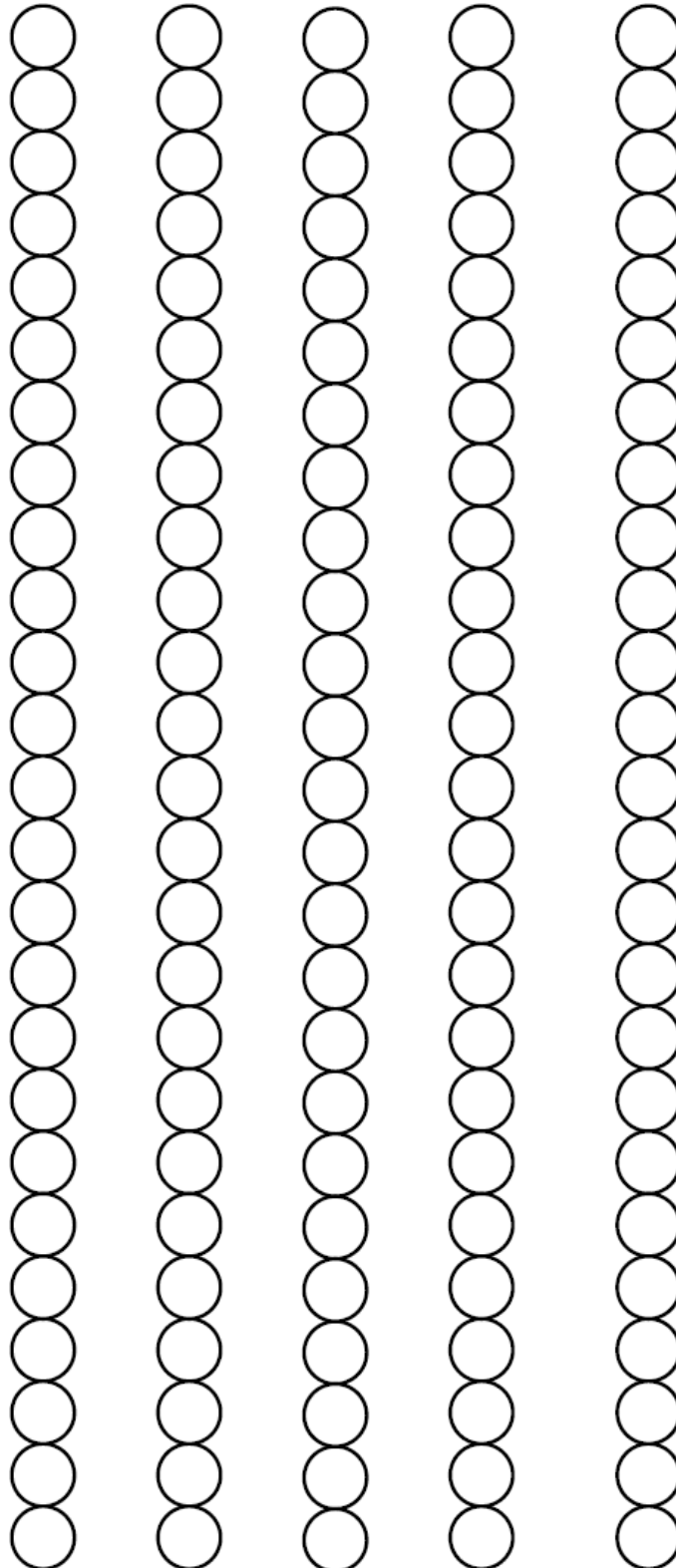


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DOMINANT (right / left) HAND

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NON-DOMINANT (right / left) HAND

20 sec

