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| **Conclusions**  Our hypothesis was the bigger the seed, the faster the germination and the better the growth performance. Our results support our hypothesis. In our experiment on the effects of seed size on a pea plant�s height, on the final day in the soil condition, the 6mm seeds grew on an average of 6.6 cm more than the 5mm seeds. The 7mm seeds grew on an average of 0.5 cm more than the 6 mm seeds, which is 7.1 cm more than the 5mm seeds (Refer to Seed Size and Height in Soil graph). In the vermiculite condition, which we used as a control to see how the plants would grow without added nutrients, the 6mm seeds grew on an average of 5.2 cm more than the 5mm seeds. However, the 7mm seeds grew on an average of 1cm shorter than the 6mm seed. Still, the 7mm grew 4.2 cm more than the 5mm seeds (Refer to Seed Size and Height in Vermiculite graph). So, it still shows that bigger seeds produce bigger plants than smaller seeds.  In our experiment with germination, during the first trial, the only the 6mm and 7mm seeds started germinating during the first day. By the end of the first week, only the 6.5 mm and larger seeds had at least 80 percent of its seeds germinated. In the end of the first trial, however, only the 5.5-5.9 mm seeds did not have all of its seeds germinated. After twenty days, it only had 70 percent of its seeds germinated (Refer to Germination Trial 1 graph). We did the experiment again for repetition, and in the end, all the seeds germinated. This supports our hypothesis that bigger seeds germinate faster than smaller seeds.  In our experiment to test if bigger seeds have bigger stems, radicles, which help a plant transfer nutrients from the soil, and knots, which contain bacteria that break down soil nutrients. In the end of the first trial of the first experiment, the 6.5-6.9mm seeds had the longest stem length at an average of 14.4mm. However, both the 6mm and the 7mm seeds produced stems bigger than the 5mm seeds. In the second trial, the 7.5-7.9mm seeds produced the longest stems averaging at 28.4mm, which is over 14mm longer than the 5.0-5.4mm seeds, which was the shortest. Furthermore, in the first trial, the radicles of the 6.5-6.9mm seeds were the longest, with an average of 8.3mm by the last day. In the second trial, the 7.5-7.9mm seeds had the longest radicle averaging at 16.7mm. Moreover, in the first trial, the 6.5-6.9mm seeds grew the most knots. However, in the second trial, the 7.0-7.4mm seeds had the most knots at an average of 4.8. However, the 7.5-7.9mm seeds came in a close second with an average of 4.5 knots, which is only an average of 0.3 knots difference. The data still shows that bigger seeds produce longer stems and radicles and more knots than the smaller seeds, which will help it survive by producing more nutrients.  Even though the 7mm seeds did not always have the best growth performance, it always performed better than the 5mm seeds. In conclusion, we do believe that bigger seeds produce bigger plants, parts, and a faster germination rate than smaller seeds.  **Recommendations**  If we were to conduct this project again, we would recommend using bigger sample sizes, such as more seeds. Also, we believe that it would be interesting to conduct the experiment again using different types of seeds, such as avocado seeds or wheat seeds, to see if seed size affects growth performance in different seed types.  **Acknowledgements**  We would like to thank all the people that helped us during the process of this project that made it possible to accomplish this experiment. We would like to thank Mr. Thiel for his helpful and enlightening advice. We would also like to thank Mr. Simms for his insight and knowledge on Botany and to teach us how to correctly germinate seeds. We give our gratitude to Lynne Elkin of the California State University of Hayward who aided us in our research. We would like to thank our friend Erin for loaning her garden supplies and for sitting with us at lunch. We would like to thank our family for their time, money, and encouraging us throughout the whole process.  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2002 Projects](http://docs.google.com/AP2002/index.html)][[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |