



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Emily J. Elder	Project Number S1107
Project Title Vermicomposting	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals In this generation, more people are trying to raise awareness to the three R#s: Reduce, Reuse, and Recycle. Humans create abundant amount of waste every day and have no other place to put it other than in the trash. Now we can put waste in our gardens and have nature#s tillers also known as worms REUSE our wasted food and turn it into nutrients. Which worms can help lessen waste and till our soil? How many do we need? The purpose of this experiment is to measure how the type and the total number of earthworms can affect the amount of turned over organic material in the soil.</p> <p>Methods/Materials 10 inch diameter buckets or plastic pots,Top soil,Earthworms (night crawlers and red worms),Grass clippings,Metric ruler,Kitchen measuring cup,Gardening tools.1)Put soil in the buckets and add water to make the soil a moist environment for the worms.2)Place the required number of worms per bucket:Red Worms and Night Crawlers:0,5,15,30,50,100 worms per bucket.3)Allow the worms to work down into the potting soil.4)Place 5cm of grass clippings evenly over the surface of the potting soil per pot 5)Every other day measure the left over grass clippings in each pot and record your findings.6)Record Monday, Wednesday and Friday afternoon.7)Repeat for 6 additional weeks and check and record data.</p> <p>Results The results were that the red worms composted the most organic material within the 7 weeks of observation. Unfortunately, the night crawlers were very unsuccessful especially the bucket with 50 night crawlers. The buckets with the fewer amounts of night crawlers did better than the most night crawlers. The night crawlers did so poorly because they need to be in a larger environment with more space. Moreover, night crawlers prefer to be at least 4ft deep into the soil. The buckets were only about a foot and a half deep. As for the red worms, they thrived in tilling the organic material. Red worms are more common and flourish on the surface of the soil,in the top 10 inches or so of the topsoil under the litter layer because they are epigamic worms.</p> <p>Conclusions/Discussion In Conclusion,although the difference in the number of worms moderately affected the amount of grass clippings left,it will affect the amount of nutrients in the soil. The more red worms,the more nutrients there will be for plants to go even though we did not test it. Basically week by week the numbers gradually decrease the red worms more than the night crawlers.</p>	
Summary Statement My project was about what type of worms, and the amount of worms, help speed up the process of composting.	
Help Received My Mom purchased the materials and help me glue the items on the board.	