



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

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<b>Project Title</b> <b>Playing With Pencils: Comparing the Quantity of Graphene Created by Different Types of Graphite</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment was to determine which type of graphite is best for making graphene.</p> <p><b>Methods/Materials</b> I used the graphite 2B, 3B, 4B, 6B, 9B, and the magic green tape when creating the graphene. The pencil leads each have a different mix ratio of graphite to clay. The harder pencils have more clay, and the softer, darker pencils have more graphite. I then shaved each graphite stick. After I had a sufficient amount of powder for each type of graphite, I put a 2-inch piece of tape on the powder and made sure the sticky side of the tape was completely covered in graphite powder. Next, I used separate pieces of tape to peel away the layers of graphite. Finally, I tested the resistance of the graphene samples using a multimeter.</p> <p><b>Results</b> The graphene sample created with the 9B graphite had the least resistivity. The more clay in the mix ratio of the graphite, the higher the resistivity level.</p> <p><b>Conclusions/Discussion</b> When creating graphene, we should be using the 9B graphite.</p>	
<b>Summary Statement</b> In my project, I seek to find the type of graphite people should use when creating graphene.	
<b>Help Received</b> No help received.	