

# Elementary school scientific experiments on commercial suborbital spacecraft: A pilot program funded by the American Geophysical Union

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## Abstract

The commercial suborbital spacecraft industry is demonstrating a capability that is inexpensive enough to create novel and revolutionary capabilities. In addition to unprecedented research and engineering capabilities, these new space access opportunities are low enough in cost to support educational opportunities. Such a situation allows for the exciting possibility of students at all levels gaining experience with spacecraft and conducting research experiments in space.

On a recent visit to PS 185 (public elementary school in Brooklyn, NY), the students demonstrated an overwhelming level of excitement and enthusiasm for NASA planetary missions as well as with commercial spacecraft. As a result of this enthusiasm, the AGU Celebrate 100 Grant program

has funded our pilot endeavor to develop and fly a student scientific experiment on the Blue Origin New Shepard commercial suborbital spacecraft. This project is affordable and will engage the entire PS 185 elementary school student body during design, development, flight and analysis of a space flight scientific experiment. We intend to provide these students with a unique and exciting educational opportunity that will likely encourage more students to pursue STEM careers. This should also inform and inspire other school programs to pursue such relatively low cost and high impact educational opportunities as well as increase overall public awareness of the merits of science. It is our hope that this program will provide a model for NASA Flight Opportunities to potentially fund such future low cost 'mentorship' programs as part of the current REDDI program.



**Figure Insert:** PS185 entire student body formation to show support for the project (left panel) and individual student teams working on the project (right three panels).