

# NEW HORIZONS

To Pluto and Beyond

<http://pluto.jhuapl.edu>



## GROWING UP WITH A MISSION

### Level

Grades 2 - 5

### Learning Goals

Measuring heights and using graphs (growth charts) to make predictions.  
Collecting data and finding the mean, mode, and median of the data set.  
Graphing points on a Cartesian coordinate system.

### National Council of Teachers of Mathematics Standards

*Measurement:* Use tools to measure

*Data Analysis and Probability:* Collect data using observations and surveys;  
Represent data using tables and graphs

### Materials per class:

New Horizons growth chart mission poster  
Pad of small sticky notes, i.e. Post-Its (optional)

### Materials per student:

Pencil  
Student Activity Sheet with U.S. Growth Chart (for girl or boy)

### Teacher Overview

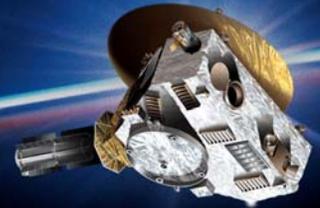
1. You will need to hang the New Horizons growth chart mission poster on an accessible wall where students can stand to measure each other. Hang the poster so that the 3 ft mark on the bottom left corner of the poster is 3 ft above the ground (or equivalently, so the 90 cm mark on the bottom right corner of the poster is 90 cm above the ground).
2. If New Horizons has launched, look on the New Horizons website (<http://pluto.jhuapl.edu>) to see the time until the Pluto fly-by.  
If New Horizons has not yet launched, the first possible launch is scheduled for early 2006 for arrival at Pluto in 2015.



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3. On the chalk board, copy the following table with enough space for each student's data to be entered. You may use either feet and inches (scale along left edge of poster) or centimeters (scale along right edge of poster) for measuring student heights.

Student's Name	Height

4. Students will work with partners to measure each other using the growth chart, record their results, and make calculations. Depending on the math abilities of the students you are teaching, you may want to do all or portions of the calculations and analysis together as a class.
5. Next, students will work on completing the page showing a flow chart. This will lead them through making a prediction of how tall they'll be when they are adults. Here students will need a copy of a US Growth Chart. Girls should use a growth chart for girls, and boys need a growth chart developed for boys.
6. Optional: If time permits, have each student write their name on a sticky note and stick it at their predicted adult height on the poster.

