## Balloon ascent

Data Literacy Project

**Background**: On Dec. 7, 1991 in Coffeyville, Kansas, a balloon with instruments was released and rose up through Earth’s atmosphere. A sample of the data it collected is in the table below.

(Source: Langley DAAC. http://eosdis.larc.nasa.govuserserv@eosdis.larc.nasa.go)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time (s) | Height (m) | Pressure (millibars) | Air Temp (DegC) | Water density (g/cm) | Wind speed (m/s) |
| -33 | 227 | 985.1 | 11.2 | 9.31 | 4.6 |
| 18.4 | 271 | 980 | 11.8 | 9.01 | 7.7 |
| 42.9 | 400 | 965 | 11.4 | 9.23 | 12 |
| 59.4 | 487 | 955 | 11.4 | 9.47 | 20.4 |
| 112.8 | 754 | 925 | 11.9 | 9.73 | 26 |
| 149.5 | 938 | 905 | 12 | 8.8 | 28.9 |
| 208.7 | 1220 | 875 | 11.7 | 6.14 | 25.3 |
| 269.5 | 1512 | 845 | 11.8 | 3.09 | 18.8 |
| 309.3 | 1712 | 825 | 10.1 | 2.98 | 16.5 |
| 444 | 2283 | 770 | 9.1 | 1.26 | 13.8 |
| 496.2 | 2500 | 750 | 9 | 0.9 | 16.8 |
| 546.2 | 2723 | 730 | 8.2 | 0.84 | 14.9 |
| 691.7 | 3305 | 680 | 4.9 | 0.82 | 11.1 |
| 790.6 | 3671 | 650 | 2.8 | 0.61 | 13.3 |
| 985.5 | 4448 | 590 | -1.7 | 0.92 | 16.2 |
| 1084.8 | 4859 | 560 | -5.7 | 0.68 | 16.2 |
| 1284.2 | 5660 | 505 | -11 | 0.11 | 12 |
| 1402 | 6128 | 475 | -13.4 | 0.04 | 11.7 |
| 1539.3 | 6706 | 440 | -17.6 | 0.39 | 14.6 |
| 1716.5 | 7412 | 400 | -23.1 | 0.11 | 17.2 |
| 2514.3 | 10679 | 250 | -47.1 | 0.01 | 24 |
| 3273.7 | 14004 | 150 | -58.3 | 0 | 5.6 |
| 3826.5 | 16491 | 100 | -67.4 | 0 | 6.6 |
| 4282.7 | 18605 | 70 | -69.4 | 0 | 6.9 |

1. Write a question that could be answered with the data in this table.
2. Which of the following best describes your question?
   1. It asks about how a measurement varies within one or more groups
   2. It asks about how two groups compare in a single measurement
   3. It asks about the correlation between two variables
   4. It asks about how something changes through time
   5. None of the above describes my question very well
3. What kind of graph would you chose to display the data above so that it answers the question you posed in Question 1?