Lynne M. Bailey

Saturday, November 25, 2006

Science Graph Online

The Internet is a wealth of information. Create a science content graph at National Center for Education Statistics. Use a topic from the science curriculum, and state the standard. Show your data and your resulting graph (try 2 graphs). Discuss how you might use this website in Science and Math instruction.

Science Topic: S2: Life Sciences; S6: Scientific Tools & Technologies; S8: Scientific Investigation

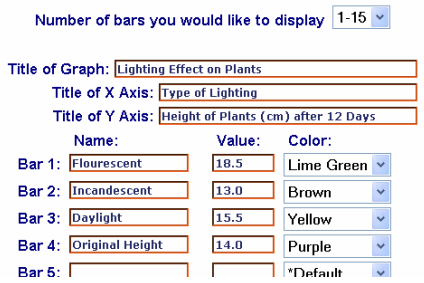
Science Standard:

S2d: Demonstrates understanding of populations and ecosystems and the effects of resources and energy transfer on populations.
S6a: Uses technology and tools to observe and measure objects, organisms, and phenomena, directly, indirectly, and remotely.
S6b: Records and stores data using a variety of formats.
S8a: Demonstrates scientific competence by completing a controlled experiment.

Data:

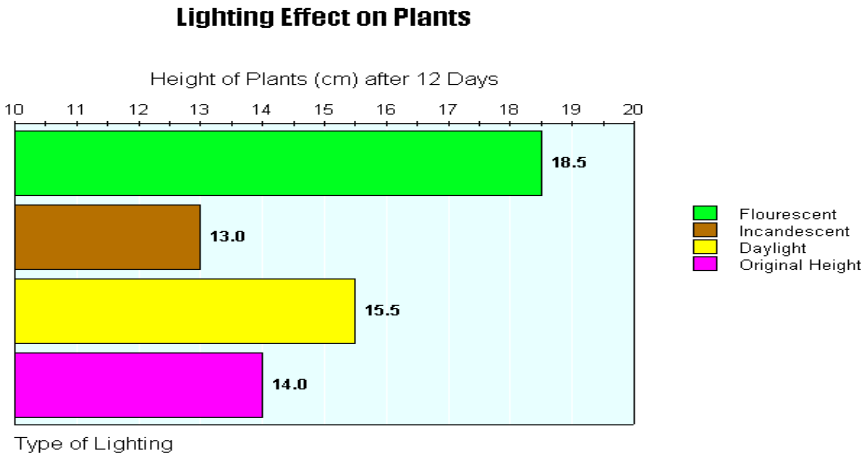
My plants were about 14 cm. tall when I bought them. The Plants in the fluorescent light grew the tallest to an Average height of 18.5 cm. The plants in the incandescent Light shrivelled up to an average height of 13 cm. The Plants in the sun grew to an average height of 15.5 cm.*

Additional data was fabricated for Graph 2.

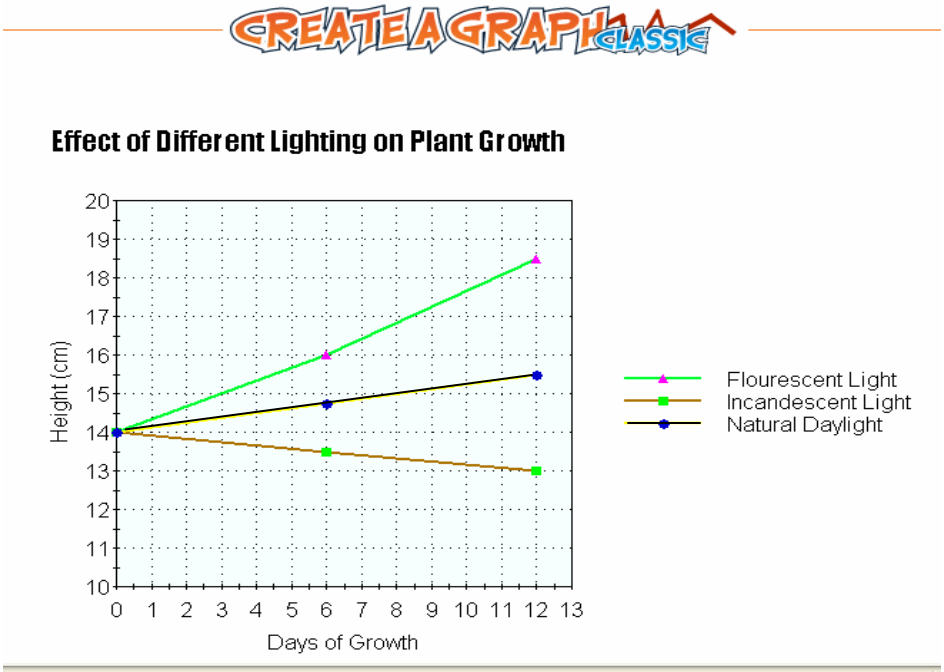


Graph 1:

CREATE A GRAPH CLASSIC



Graph 2:



Use in the math/science classroom

The online tools at Create a Graph could be of great value to many students and teachers. With this free tool you do not need to have another software package installed on the computer to create a graph electronically. Teachers and students in any environment with a computer and Internet connection can quickly enter data and produce a graph. The newer version of the tool includes a feature to quickly download, save, and/or email the graph. Students may also find this easier to use than the graphing software in MS office or other commercial software and can quickly add a graph to any project.

*The experiment reproduced below is a perfect example of how a student could add a valuable segment to his final report, and this data was used to create the two graphs in this report. In a science lab, student groups could quickly input their data and see a visual representation which could help them understand their results more quickly. They can print the graph and include it with their lab reports.

```
GROWTH OF PLANTS IN DIFFERENT LIGHTS

STUDENT AUTHOR: BILL DONKERVOET
SCHOOL: MANDEVILLE MIDDLE SCHOOL
        MANDEVILLE, LOUISIANA
GRADE:  6
TEACHER:  ELLEN MARINO, MED

I.  STATEMENT OF PURPOSE AND HYPOTHESIS

I WANTED TO FIND OUT IF DIFFERENT KINDS OF LIGHT AFFECT
PLANT GROWTH.  MY HYPOTHESIS STATES THAT THE PLANTS GROWN IN
THE FLUORESCENT LIGHT WILL GROW THE TALLEST.
```

II. METHODOLOGY

FIRST, I WROTE MY STATEMENT OF PURPOSE. THEN, I WROTE THE REVIEW OF LITERATURE AND DEVELOPED MY HYPOTHESIS. I BOUGHT NINE HAWAIIAN TOMATO PLANTS. I USED A FLUORESCENT LIGHT, AN INCANDESCENT LIGHT, AND THE SUN. I PLACED THREE PLANTS IN EACH BOX WITH A DIFFERENT TYPE OF LIGHT IN EACH BOX. I RECORDED HOW TALL THE PLANTS IN EACH BOX GREW EVERY OTHER DAY FOR TWELVE DAYS. I THEN ANALYZED THE DATA.

III. ANALYSIS OF DATA

MY PLANTS WERE ABOUT 14 CM. TALL WHEN I BOUGHT THEM. THE PLANTS IN THE FLUORESCENT LIGHT GREW THE TALLEST TO AN AVERAGE HEIGHT OF 18.5 CM.. THE PLANTS IN THE INCANDESCENT LIGHT SHRIVELLED UP TO AN AVERAGE HEIGHT OF 13 CM.. THE PLANTS IN THE SUN GREW TO AN AVERAGE HEIGHT OF 15.5 CM..

IV. SUMMARY AND CONCLUSION

THE PLANTS IN THE FLUORESCENT LIGHT GREW THE TALLEST AND THE PLANTS IN THE INCANDESCENT LIGHT WERE THE SHORTEST. THEREFORE, I ACCEPTED MY HYPOTHESIS WHICH STATED THAT THE PLANT IN THE FLUORESCENT LIGHT WOULD GROW THE TALLEST.
http://www.youth.net/nsrc/sci/sci.001.html