

PHYSICS HOME LAB ACTIVITY: CENTER OF GRAVITY

Let your creativity loose. Utilize your artistic ability, craftsmanship, and other such talents. Design and build a project related to center of gravity.

The project will be worth 10 points, with an additional 5 points possible for extra credit. Grading the projects necessarily involves some subjectivity. I will try to take into account such factors as care, effort, neatness, craftsmanship, creativity, artistic merit, degree of difficulty, time spent, and how well the project relates to the topic (center of gravity).

Possible Activities

1. Create an unusually shaped object that illustrates center of gravity.

Examples: Bird that balances on the end of your finger....tightrope walker that balances on one foot. You can use any materials you wish...be creative and artistic! Several examples will be shown in class.

2. Find the center of gravity of a geographic area (continent, country, state, county, city...or any location or area that interests you) by using a map or model that can be tested by the "plumb line" method. **Use 3 clearly visible lines, and clearly circle the center of gravity.**

a) Only one person per class can do a given area. You must check with me to sign up for your chosen area, and to be sure that it is not already taken. First person who asks gets the area.

b) You may assume the area is geologically uniform, i.e., flat and of uniform density. A well done 3-dimensional relief map is a more complex problem, and would potentially be worth more credit.

c) No dimension of your map can be smaller than 30 cm.

d) Commercial road maps or country maps may be cut out and pasted to a stiffer material. Poster board or cardboard would be possible materials...there must be some stiffness to the model...regular paper is not acceptable. NOTE: Don't cut up any maps without permission of the owners!

e) A commercial map that is neatly cut out and mounted, with its center of gravity clearly marked as noted above, and nothing else done to it, can receive a maximum of 80% of the total points.

3. Make a video, or create a computer based project related to center of gravity. See me for suggestions and resources if you are interested.

4. ANYTHING ELSE YOU WANT...CLEAR IT WITH ME IF YOU ARE IN DOUBT ABOUT WHETHER IT FITS THE GENERAL IDEA OF THIS ACTIVITY.