Physics 406

Classroom Activity 1 (PDF)

Task #1

We have built a geometric model of the solar system in class. In order to fit all objects between the Earth and the sun into the classroom we had to shrink everything (the sun, the planets and their distances) quite a bit. In fact we shrunk everything by the same factor. A “Model” has many of the same properties of the “Real Situation” that we model in order to visualize the situation and its behavior. The “Model” is just smaller or simplified.

Based on your experience and on what we have done in class find out which of the following properties in the real solar system and of its members are remain the same in the model:

Circle One

Absolute distances between the sun and the planets? Yes/No

Absolute volume of the planets? Yes/No

Angular size of the model sun as viewed from the model Earth? Yes/No

Ratios of the distances between the individual solar system members? Yes/No

Hints:

Work on this together with your neighbors (a group of two or three should be fine).

To help guide you in this activity, think about familiar models:
- model houses for a toy train
- doll houses and their interior
- maps

What remains the same and what doesn’t?

Or draw objects on the back of this sheet. Then add a smaller version of your drawing that looks alike. This is also a “Model” of the larger original version.

Task #2 (From Syllabus)

Under which circumstances do you fail this course? List all conditions!!

What in the course counts towards the final grade? List all components!!

If you scored “A’s” in all 3 first Exams, do you have to take the Final Exam? Yes/No

What is the penalty for bringing more than one clicker into class (for all owners of the clickers)?