Careful reading

Reading of the task assignment attentively belongs to the very important steps in problem solving. It is desirable for students to distinguish important information from unimportant. Many students write all numeric values from the assignment but they do not pay much attention to the remaining text. Nevertheless, students should also give attention to the nonnumeric information in the task that is crucial for the solution. This activity exercises purposefully an analysis of the task assignment for that reason. Explicit aiming and emphasizing of the careful reading within the described activity should lead students to think about each physics task similarly.

Main aim: To emphasize the necessity of attentive reading of the assignment. To show that nonnumeric data in the task assignment are also important in solving physics tasks.

Use of the activity: The activity can be used almost at any time. It is ideal for topics, where many tasks are solved (e.g. kinematics or dynamics of mass point in mechanics). Tasks with long text or with excess information are very suitable for this activity. In such tasks, students have to think about importance of particular information.

Note: The activity is suitable especially for younger students (at the age of 12-15).

Time demand: low; the activity takes from 10 to 15 minutes, depend on number of tasks (the solving of the physics tasks itself is not included in the time demand)

How to proceed in class:

Every student receives a worksheet with several assignments of tasks (3-5) from the actual schoolwork. Their task is to read through the first assignment and to highlight in it the numeric as well as nonnumeric data significant for the solution. The students write a list of important information then.

Afterwards, the students check their highlighted data with their neighbouring classmate.

The teacher with the assistance of the students solves the first task on the board. He or she reads through the assignment of the first task, marks the significant data (or read them aloud), and writes the list of the significant numeric and nonnumeric values on the board.

Recommendation: three readings

- 1st reading – I read the assignment to get a short overview of the situation
- 2nd reading – I read carefully one sentence after another, mark the data significant for the solution and write them
- I check the list of the significant data whether it is understandable
- 3rd reading – I look over the task assignment once more whether I don’t miss something; I focus especially on the parts that I don’t mark as significant
After that, the students go through and write the significant data from the remaining tasks in the worksheet. They work individually again and when they are done, they check their results with their neighbouring classmate again. At the end of the activity, students check their results with the teacher.

*Note:* The students’ solutions can differ in the form how the significant data are written. It is important however to write them all.

The students can solve the tasks at the end of the activity (or as homework). In such a case, students can mark the parts of solution where the chosen nonnumeric data were used. The importance of the data is shown this way.

**Recommendation what to do in following classes:**
It is apt to put this activity into the class more often. It is a short activity reminding students of the importance of attentive reading.