

UP'N'ATOM: TEACHER'S GUIDE

WHAT IS IT?

Up'n'Atom is a collaborative game, where the students work together in groups of 2-3. The goal of the game is to develop the students' knowledge about and understanding of the elements, atoms and the periodic table – and also making the students capable of putting this knowledge into words. One player explores the game environment using a VR headset, while the other player(s) is (are) using the printed manual to find the right solution. None of the players can see, what the other one sees, and they need each other in order to complete the game. The players have to communicate with each other in order to do well in the game. If there are 3 students in a group, the two of them will cooperate on analysing the manual.

In the game, the students will be let through three rooms. In each room they have to decode a number of visual clues related to atoms and the periodic table. The students have to find out which atom, the clues refer to, and then build the atom with the correct number of neutrons, protons and electrons. In each room the students have a limited amount of time to build the required atoms.

HOW MUCH TIME IS NEEDED TO PLAY?

The game is designed to last approximately 45 minutes including the teacher's introduction. Start by forming the groups and then leave 5-10 minutes for the students to read the introduction to the game and the two knowledge sheets. The game itself has a playtime of approximately 30 minutes. In the game new atoms and clues are generated randomly, so that it is possible to play more times with new tasks.

WHICH KNOWLEDGE IS NEEDED TO PLAY?

Up'n'Atom strengthens the students understanding of the periodic table and the construction principles of atoms. Also the students are getting accustomed to using scientific terms. Before playing, the students should be introduced to basic knowledge of atoms and the periodic table. They should as a minimum be able to differ between protons, neutrons and electrons and have knowledge of electron shells. Also it is recommended, that the students are familiar with the structure of the periodic table (e. g. groups, periods, metals and non-metals) The game material includes two knowledge sheets, summarizing the required knowledge.

TECHNICAL REQUIREMENTS

Each group needs one smartphone and one VR headset. As the students work together in groups of 2-3, it is required, that half or as a minimum a third of the pupils have a set. The students can use their own smartphones.

Smartphones: Most smartphones produced after 2014 will work. E.g. iPhone 5s, HTC1, Moto X, Nexus 5, Samsung Galaxy S4.

VR headsets: Most models can be used, e.g. Google Cardboard.

It is recommended, that the students download the Up'n'Atom app on beforehand. Look up "Upnatom" in the App Store (Apple) or Google Play (Android).

