

BRIGHT Teacher Atom™

BRIGHT Teacher Atom is a demonstration tool that lets the teacher present the abstract concepts of atomic structure, isotopes and ions to the class, in an easy and concrete way. The demonstration model is based on the Danish physicist Niels Bohr's theory of the atomic structure. The BRIGHT Teacher Atom makes science teaching and learning easier.

How to use the BRIGHT Teacher Atom

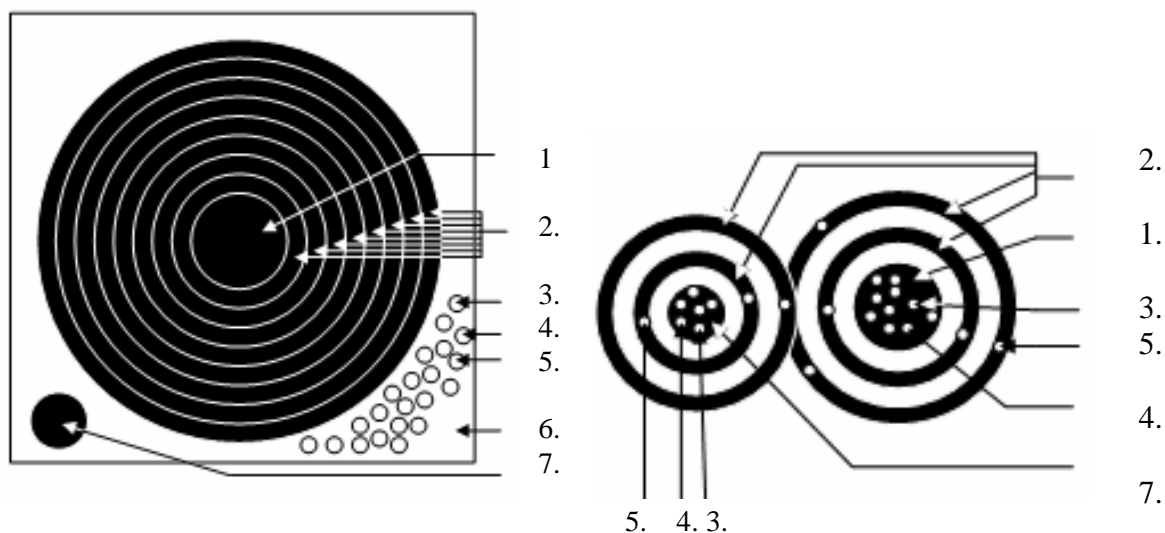
The electron shells are 8 separate concentric orbitals. Use every other orbital to show the different electron shells; use the space between the nucleus and the orbital; or between the different orbitals, to separate the electron shells from each other on the whiteboard.

The BRIGHT Teacher Atom includes two atomic nuclei, in different sizes. Counting from the center and out, electron shells 2, 4, 6 and 8 can be used with the larger nucleus, and electron shell 1, 3, 5 and 7 along with the smaller nucleus.

All parts of the BRIGHT Teacher Atom, except for the storing board, are magnetic, and can easily be moved at the surface.

BRIGHT Teacher Atom is kept on the storing board when not in use. The printed orbits at the board show where the different electron shells fits. The larger of the nuclei fits in the centre of the board, and the smaller one can be placed on top of the larger one.

The storing board has two holes for possible hanging; one in each top corner.



Description:

1. Atomic nucleus, larger
2. 8 electron shells
3. Protons

4. Neutrons
5. Electrons
6. Storage board
7. Atomic nucleus, smaller

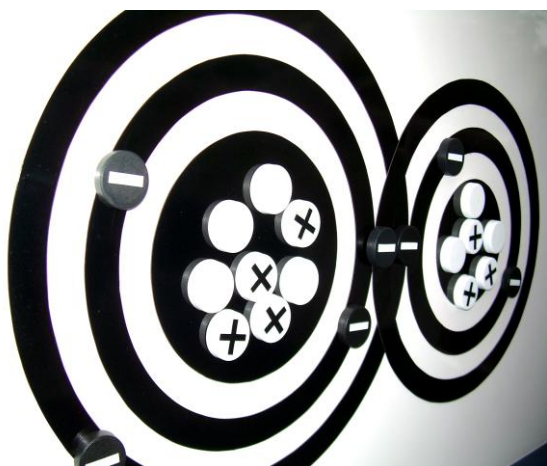
BRIGHT Teacher Atom description;

One item:

- 2 atomic nuclei; 18 and 13 cm in diameter.
- 8 electron shells (use up to 4 shells to each nucleus)
- 20 protons, 20 electrons and 20 neutrons
- 1 metal board for storing parts when not in use, 55 x 55 cm (21,65" x 21,65")

As all parts of the BRIGHT Teacher Atom are magnetic, and can easily be moved at the surface of the whiteboard, the ionic bonding can easily be shown by the placing of the different magnetic parts.

To present the atomic structure, isotopes or ions to the class



Make an atom or isotope:

Place one of the atomic nuclei and your selected electron shells directly at the classroom whiteboard. Put the right number of protons and neutrons at the nucleus, and place the right number of electrons at the electron shells.

Make ions:

The smaller atomic nucleus is placed at the whiteboard, along with the chosen electron shells, and the larger atomic nucleus with its chosen electron shells next to it.

The valence electron/electrons can now easily be moved by hand, and the abstract concepts of ions become concrete to the class.

Students and teachers of the BRIGHT Atom™ and the BRIGHT Teacher Atom™:

Students:

”makes it all much easier”

“easier when you get to work with your hands”

“great! Better than to see and make drawings; it’s much more concrete”

Science teachers:

“Excellent!”

“Saves me time since the BRIGHT Teacher Atom does the work, and the students get the concepts as they see them very clear and they get to work with them individually or in groups”

Quotes from the BRIGHT Reference Schools™ in Sweden and USA.

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