

Anhang 3

Material 1: Worksheet Electricity

Material 1

ELECTRICITY

Part One: The atom (playing time: 0:0 – 4:15)

- Read the questions and see whether you can answer any of them. Compare with your classmate.
- Watch the first part of the lecture and complete your answers.

- List various moments in everyday life when we need electricity.
- Which are the parts that make up an atom?
- What distinguishes a neutron from a proton or an electron?
- Where in an atom would you have to “look for” a proton?
- Where would you “spot” the electrons?
- Which is the heaviest, the proton, the neutron or the electron?
- How much does a proton weigh?
- How “big” is an atom in cm?
- How many atoms would you need to form a line of 60 cm?
- Now draw an atom using all information that you have found out now. Name the different parts.

Part Two: “electric” history (playing time: 4:16 – 8:00)

Watch the second part of the lecture and try to fill the gaps.

The discovery of electricity is not a recent achievement. As early as people knew that if you rubbed amber, it would In the Middle Ages ladies killed time at boring parties by rubbing their on their clothes and watch the jump off in fright when they them with their jewels. But it was not before the that scientists found out that there must be two of electricity. You get one type if you , the other type if you They also found out that if two subjects have the type of electricity they each other, if they have types of electricity, they each other.

Benjamin Franklin compared electricity with a or a fluid that runs inside all substances. He decided that if you rub glass, you produce an of this fluid, you charge it He was also convinced that electricity cannot be , it can only be taken from one object and passed on to another. This fact is known as the principle of the

Another important characteristic of electricity discovered by Franklin is that the with which two objects attract or repel each other is the stronger

- the the objects have and
- the they are to each other.

In some substances a very small number of electrons are not to the atom, so they can move But it is only one electron in that enjoys this “special treatment”. Such substances are called because they what Franklin called the “fire” inside the materials.

