**Atoms**

**Key Stage 3 Science**

**LO: Describe the structure of atoms and explain the order elements are listed in the periodic table.**

1) Complete the table with the missing information. You can work everything out from the information that is already there.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Symbol** | **Atomic Number** | **Atomic****Mass** | **Number of Protons** | **Number of Neutrons** | **Number of Electrons** |
| Hydrogen | H | 1 | 1 | 1 | 0 | 1 |
| Helium | He | 2 | 4 | 2 | 2 |  |
| Lithium | Li | 3 | 7 | 3 |  | 3 |
| Beryllium | Be | 4 | 9 |  | 5 | 4 |
| Boron | B | 5 |  | 5 | 6 | 5 |
| Carbon | C |  | 12 | 6 | 6 | 6 |
| Nitrogen | N | 7 | 14 | 7 |  |  |
| Oxygen | O | 8 | 16 |  |  |  |
| Fluorine | F |  |  | 9 | 10 |  |
| Neon | Ne | 10 |  |  | 10 |  |

2) This is a diagram of a lithium atom. Using what you have learnt from the PowerPoint and the information your worked out above, colour the protons red, colour the neutrons blue and colour the electrons green.

3) Add the electrons to these atoms. Remember you can have 2 in the first shell and up to 8 in the second shell.

Carbon

Atomic Number 6

Helium

Atomic Number 2

C

He

Neon

Atomic Number 10

Magnesium

Atomic Number 12

Ne

Mg

4) Match the element to the chemical symbol. You may need to look some of these up online or in a science book.

|  |  |  |
| --- | --- | --- |
| **Element Name** |  | **Element Symbol** |
| Hydrogen | O |
| Carbon | Si |
| Oxygen | Mg |
| Aluminium | Fe |
| Silicon | H |
| Sodium | Cu |
| Magnesium | Al |
| Iron | C |
| Copper | Na |

5) In the diagrams below, different types of atom are different colours. Which of these is an element?

6) Which of these are elements. You can look them up if you need to.

|  |  |
| --- | --- |
| **Name** | **Element?**  |
| Hydrogen | Yes |
| Gold |  |
| Silver |  |
| Water |  |
| Oxygen |  |
| Air |  |
| Steel |  |
| Copper |  |
| Wood |  |