



## Atoms and Molecules Brochure

### Aim

- Find and describe molecules and atoms in everyday objects
- Recall knowledge on atoms and molecules

### Target Audience

- Peers and friends

### Target Category

- The atomic structure: protons, neutrons, electrons, and nucleus
- Periodic table

### Task

- Design a brochure which describes the structure of an atom
- List the different compounds we can see in our everyday life, and what atoms they are made of

### The instructions

Your final mark for the Science course in Term 2 will be out of 100 marks, 30 of which will be awarded for creating a brochure. Therefore, designing a nice brochure is important, and it is a good way to increase your marks.

Brochure is a small book. You will have to make your own small 7-page book about atoms and molecules.

### Front page

Make a front page with your name and class on it. Please be creative – you can draw or print some colourful pictures related to the topic of the brochure to decorate it.

### Page 2 \* Atomic Structure

- Draw an atom, and label it: protons, neutrons, electrons, and nucleus. *Hint: See page 274 in your book or use google*
- Write a definition of protons, neutrons, electrons, and nucleus. Please mention their charge and relative mass

### Page 3 \* Metals and Non-metals

- Cut this periodic table and glue it into your brochure on page 3

Metals, Nonmetals, and Metalloids																																													
H																	He																												
Li	Be											B	C	N	O	F	Ne																												
Na	Mg											Al	Si	P	S	Cl	Ar	metals																											
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr																												
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	metalloids																											
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn																												
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Uub	—	Uuq	—	—	—	—	nonmetals																											
<table border="1" style="width: 100%; text-align: center;"> <tr> <td>Ce</td><td>Pr</td><td>Nd</td><td>Pm</td><td>Sm</td><td>Eu</td><td>Gd</td><td>Tb</td><td>Dy</td><td>Ho</td><td>Er</td><td>Tm</td><td>Yb</td><td>Lu</td> </tr> <tr> <td>Th</td><td>Pa</td><td>U</td><td>Np</td><td>Pu</td><td>Am</td><td>Cm</td><td>Bk</td><td>Cf</td><td>Es</td><td>Fm</td><td>Md</td><td>No</td><td>Lr</td> </tr> </table>																		Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu																																
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr																																

- Choose three elements: one metal, one nonmetal, and one metalloid, and describe each of them in at least three sentences. Use google to find the information about them. You can either write it down by hand or print the text.

#### **Page 4 \* Pure Elements**

- Find at least two pure elements that you can encounter in everyday life as elements, not as part of a compound. Examples: oxygen in the air, nitrogen in the air, iron, gold, mercury in a thermometer, copper in the wires, silver, carbon in the pencil, etc.
- Describe each of them, telling where you can find these elements, what they are useful for, and anything you find interesting about them. Use pictures to make your brochure easier to read.

#### **Page 5 \* Pure Compounds**

- Find at least two pure compounds that you can encounter in everyday life. Examples: water, CO<sub>2</sub> in the air, table salt, vinegar, sugar, oil, marble, chalk, etc.
- Describe each of them, telling where you can find these compounds, what they are useful for, and anything you find interesting about them. Tell us what elements these compounds are made of.

#### **Page 6 \* Mixtures**

- Find at least two mixtures that you can encounter in everyday life. Examples: lemonade, sand, karak tea, wood, glass, soap, etc.
- What these mixtures are made of? Example: lemonade is made mostly of water and sugar. Use google to find what some everyday objects are made of. You may use chemical formulas, if you would like to.

#### **Page 7 \* Summary**

Write a paragraph or two about what you've learned during designing this brochure. What was your favourite part?