

Valence Electron and Lewis Dot Structure

- 1 How many valence electrons do the atoms H, Li, and Na each have?
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- 2 How many valence electrons do the atoms B and Al each have?
—
- 3 How many valence electrons do the atoms F and Cl each have?
—
- 4 What electrons are considered to be valence electrons: s,p,d,f?
Explain how you come to this conclusion.

- 5 Draw the Lewis dot structure of the beryllium atom.
- 6 Draw the Lewis dot structure of the aluminum atom.
- 7 Draw the Lewis dot structure of the silicon atom.
- 8 Draw the Lewis dot structure of the iodine atom.
- 9 Indicate how many electrons must be gained or lost by each of the following atoms to achieve a stable electron configuration?
 - a) Sr
 - b) Sb
 - c) Si
 - d) S
 - e) Se
 - f) Xe
- 10 What is the total number of electrons in Br_2 ? Draw its Lewis structure.

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Answers

1 How many valence electrons do the atoms H, Li, and Na each have?

1

2 How many valence electrons do the atoms B and Al each have?

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3 How many valence electrons do the atoms F and Cl each have?

7

4 What electrons are considered to be valence electrons: s,p,d,f? Explain how you come to this conclusion.

s and p. The s and p electrons are located further from the nucleus.

5 Draw the Lewis dot structure of the beryllium atom.



6 Draw the Lewis dot structure of the aluminum atom.



7 Draw the Lewis dot structure of the silicon atom.



8 Draw the Lewis dot structure of the iodine atom.



9 Indicate how many electrons must be gained or lost by each of the following atoms to achieve a stable electron configuration?

a) Sr **Loses 2 electrons**

b) Sb **Gains 3**

c) Si **Neither gains nor loses**

d) S **Gains 2**

e) Se **Gains 2**

f) Xe **Neither gains nor loses**

10 What is the total number of electrons in Br₂? Draw its Lewis structure.

