

$\pi = 3,141592$



LKPD

Lembar Kerja Peserta Didik

# MATERI PELAJARAN KIMIA

## Konfigurasi Elektron

IDENTITAS SISWA

NAMA:

KELAS :

 **LIVEWORKSHEETS**

## TUJUAN PEMBELAJARAN

Menggunakan prinsip Aufbau, aturan Hund, dan azas larangan Pauli untuk menuliskan konfigurasi elektron dan diagram orbital.



Video 1



|    | 1s                   | 2s                   | 2p                                       |
|----|----------------------|----------------------|------------------------------------------|
| 1. | $\uparrow\downarrow$ | $\uparrow$           | $\square$ $\square$ $\square$            |
| 3. | $\uparrow\downarrow$ | $\uparrow\downarrow$ | $\uparrow\downarrow$ $\square$ $\square$ |

|    | 1s                   | 2s                   | 2p                   |
|----|----------------------|----------------------|----------------------|
| 2. | $\uparrow\downarrow$ | $\uparrow\downarrow$ | $\uparrow\downarrow$ |
| 4. | $\uparrow\downarrow$ | $\uparrow\downarrow$ | $\uparrow\downarrow$ |

A diagram of a cell. It is an oval shape with a brown outer boundary. Inside, there is a large yellow nucleus with a smaller yellow nucleolus inside it. There are also several small yellow circles scattered throughout the blue cytoplasm. The outer boundary is covered with small brown spikes.

- Konfigurasi elektron unsur X sebagai berikut :

[illegible]

Unsur X terletak pada ....

- A. Priode 3 golongan 2
- B. Priode 3 golongan 3
- C. Priode 4 golongan 1
- D. Priode 4 golongan 2
- E. Priode 4 golongan 3



Tabel pengisian elektron kedalam subkulit :

| Unsur |                                      |
|-------|--------------------------------------|
| I     | $1s^2 2s^2 2p^5$                     |
| II    | $1s^2 2s^2 2p^5 3s^2$                |
| III   | $1s^2 2s^2 2p^6 3s^1 3p^1$           |
| IV    | $1s^2 2s^2 2p^6 3s^2 3p^5 4s^1$      |
| V     | $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5$ |

Pengisian elektron yang benar menurut aturan aufbau dan Hund adalah....

- A. I dan V
- B. I dan II
- C. II dan V
- D. III dan V
- E. IV dan V

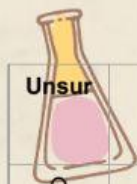


Isilah dengan angka yang tepat untuk konfigurasi elektron unsur-unsur disebelah ini pada kulit: K, L, M, dan N

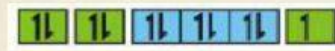
| Lambang unsur | Nama Unsur | Nomor Atom | Konfigurasi Elektron |   |   |   |
|---------------|------------|------------|----------------------|---|---|---|
|               |            |            | K                    | L | M | N |
| H             | Hidrogen   | 1          |                      |   |   |   |
| He            | Helium     | 2          |                      |   |   |   |
| Li            | Litium     | 3          |                      |   |   |   |
| Be            | Berilium   | 4          |                      |   |   |   |
| B             | Boron      | 5          |                      |   |   |   |
| C             | Karbon     | 6          |                      |   |   |   |
| N             | Nitrogen   | 7          |                      |   |   |   |
| O             | Oksigen    | 8          |                      |   |   |   |



Isilah diagram orbital yang tepat, pilih dan seret kotak-kotak berikut kedalam tabel



| Unsur | Total Elektron | Konfigurasi elektron  | Diagram Orbital |    |    |    |
|-------|----------------|-----------------------|-----------------|----|----|----|
|       |                |                       | 1s              | 2s | 2p | 3s |
| O     | 8              | $1s^2 2s^2 2p^4$      |                 |    |    |    |
| F     | 9              | $1s^2 2s^2 2p^5$      |                 |    |    |    |
| Ne    | 10             | $1s^2 2s^2 2p^6$      |                 |    |    |    |
| Na    | 11             | $1s^2 2s^2 2p^6 3s^1$ |                 |    |    |    |



| Unsur           | Total Elektron | Diagram Orbital |    |    |    |
|-----------------|----------------|-----------------|----|----|----|
|                 |                | 1s              | 2s | 2p | 3s |
| ${}_1\text{H}$  | 1              |                 |    |    |    |
| ${}_2\text{He}$ | 2              |                 |    |    |    |
| ${}_3\text{Li}$ | 3              |                 |    |    |    |
| ${}_4\text{Be}$ | 4              |                 |    |    |    |
| ${}_5\text{B}$  | 5              |                 |    |    |    |

| Konfigurasi Elektron |
|----------------------|
| $1s^2$               |
| $1s^2 2s^2 2p^1$     |
| $1s^2 2s^2$          |
| $1s^2 2s^1$          |
| $1s^1$               |

Hubungkan dengan garis ke jawaban yang tepat





Isilah jumlah elektron pada kotak berwarna menggunakan data di kotak disebelah kanan



| Lambang Unsur      | Nomor Atom | Elektron | Konfigurasi elektron                 |
|--------------------|------------|----------|--------------------------------------|
| ${}_1\text{H}$     | 1          |          | $1s^2$                               |
| ${}_3\text{Li}$    | 3          |          | $1s^2 2s^1$                          |
| ${}_7\text{N}$     | 7          |          | $1s^2 2s^2 2p^3$                     |
| ${}_{11}\text{Na}$ | 11         |          | $1s^2 2s^2 2p^6 3s^1$                |
| ${}_{18}\text{Ar}$ | 18         |          | $1s^2 2s^2 2p^6 3s^2 3p^6$           |
| ${}_{22}\text{Ti}$ | 22         |          | $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$ |
| ${}_{26}\text{Fe}$ | 26         |          | $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^6$ |

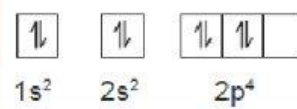
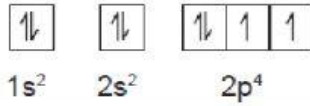
| Elektron |
|----------|
| 26       |
| 22       |
| 11       |
| 18       |
| 7        |
| 3        |
| 1        |





Konfigurasi elektron  ${}_8\text{O}$

Aturan pengisian elektron yang sesuai dengan aturan Hund  
( Pilih gambar kotak dibawah ini isi dengan benar atau salah )



Penulisan konfigurasi elektron suatu atom dapat disingkat dengan menuliskan lambang atom golongan VIIIA pada periode sebelumnya diikuti konfigurasi sisanya.

${}_8\text{O}$  :  $1s^2 2s^2 2p^4$

${}_{17}\text{Cl}$  :  $1s^2 2s^2 2p^6 3s^2 3p^5$

${}_{23}\text{V}$  :  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^3$

ditulis  ${}_8\text{O}$  :

ditulis  ${}_{17}\text{Cl}$  :

ditulis  ${}_{23}\text{V}$  :



Drag dan drop konfigurasi singkat ini  
kedalam kotak yang tepat

(Ar)  $4s^2 3d^3$

(He)  $2s^2 2p^4$

(Ne)  $3s^2 3p^5$

LIVEWORKSHEETS





Masukkan data Tabel.2 kedalam Tabel.1 dengan tepat dengan cara drag and drop



| Unsur              | Konfigurasi elektron            | Ion                     | Konfigurasi electron Ion |
|--------------------|---------------------------------|-------------------------|--------------------------|
| ${}^3\text{Li}$    | $1s^2 2s^1$                     | ${}^3\text{Li}^+$       |                          |
| ${}^{19}\text{K}$  | $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$ | ${}^{19}\text{K}^+$     |                          |
| ${}^9\text{F}$     | $1s^2 2s^2 2p^5$                | ${}^9\text{F}^-$        |                          |
| ${}^{17}\text{Cl}$ | $1s^2 2s^2 2p^6 3s^2 3p^5$      | ${}^{16}\text{Cl}^-$    |                          |
| ${}^{26}\text{Fe}$ | $(\text{Ar}) 4s^2 3d^6$         | ${}^{26}\text{Fe}^{3+}$ |                          |

| Konfigurasi Ion            |
|----------------------------|
| $1s^2 2s^2 2p^6$           |
| $(\text{Ne}) 3s^2 3p^6$    |
| $1s^2$                     |
| $1s^2 2s^2 2p^6 3s^2 3p^6$ |
| $(\text{Ar}) 4s^0 3d^5$    |



# Thanks!

Selamat mengerjakan



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