

**Alternate Education Program For Teaching And Learning In February Month For 2021-2022.**

**Alternate Academic Calendar**

**Class:10**

**Subject: Science**

**Month: February.**



**Chapters: Chapter-5-Periodic classification of elements.**

<b>Sl n o</b>	<b>Month/week</b>	<b>Main learning abilities</b>	<b>Learning activities</b>	<b>Evaluation</b>
<b>1.</b>	<b>February first week Chapter-5 Periodic classification of elements.</b>	<b>Making order out of chaos: 1. Classifying elements as metals and non-metals. 2. Know about Dobereiner's law of triads. 3. List out the advantages and disadvantages law of triads</b>	<b>1.Activity sheet -1. 2. Activity sheet -2. 3. Activity sheet -3. You tube link of samveda class . <a href="https://www.youtube.com/watch?v=AY2SUa0RTL">https://www.youtube.com/watch?v=AY2SUa0RTL</a> <b>LU.</b> You tube link of samveda class <a href="https://www.youtube.com/watch?v=W6718vW_YwM">https://www.youtube.com/watch?v=W6718vW_YwM</a></b>	<b>1. List out the characteristic features of metals and non-metals. 2. What are the reasons for failure of classifying elements into metals and non-metals?</b>

2.	February second week.	<p>and cite the example for triads.</p> <p>4. Explain about Newland's law of octaves and know about advantages and disadvantages.</p> <p>5. Explain about Mendeleev's law of periodic table.</p> <p>6. Understand with example about the achievements, advantages of classification and its limitations.</p> <p>Explain about modern periodic law.</p> <p>1. Know about the advantages</p>	4. Activity sheet – 4.	<p>3. State Dobereiner's law of triads.</p> <p>4. State Newland's law of octaves.</p> <p>5. What are the reasons for rejecting Newland's law of octaves?</p> <p>6. Describe how Mendeleev devised the periodic table.</p> <p>1. State modern periodic law.</p> <p>2. List out the uses of modern periodic table.</p> <p>3. What are periods and groups with respect to periodic table? How many periods and</p>
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of periodic table.  
2. Explain about the relationship about the position of elements – period, group, valence electrons, orbitals with respect to periods in the modern periodic table.  
3. List out the trends in the modern periodic table. Explain about the characters of valency, atomic size( radius).  
Metallic and non-metallic properties, electropositivity

5. Activity sheet -5.  
You tube link of samveda class,  
<https://www.youtube.com/watch?v=WGUsqnzcVvg>

groups are there in periodic table?  
4. While devising modern periodic table atomic number was considered rather than atomic mass. Why?  
5. Define the following,  
1) Valency  
2) Atomic size( Radius)  
3)Electropositivity  
4)Electronegativity  
5) Metalloids.  
6) List out the attempts made by Scientists from the beginning to classify elements.

		<b>and electronegativity, metalloids.</b>		
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## Chapter-8- How do organisms reproduce?



Sl no	Month/week.	Main learning abilities	Learning activities	Evaluation
01.	February third week. Chapter-08 How do organisms reproduce?	<ol style="list-style-type: none"> <li>1. Why the sexual mode of reproduction?</li> <li>2. Understand about the usefulness of variations in the survival of a species.</li> <li>3. Know about how the meiotic cell division maintains a constant chromosomal number in the next generation.</li> <li>4. Explain the stages of sexual</li> </ol>	<ol style="list-style-type: none"> <li>1. Understand through various examples about the need for sexual reproduction for survival of species.</li> <li>2. Explain the importance of DNA self replication.</li> <li>3. Explain in brief with suitable example about the importance of meiotic cell division.</li> </ol> <p>You tube link of samveda class  <a href="https://www.youtube.com/watch?v=fw15uHcDGx0">https://www.youtube.com/watch?v=fw15uHcDGx0</a></p> <ol style="list-style-type: none"> <li>4. By using the picture of a flower or a flower, List out the parts of flower and their functions.</li> <li>5. From the picture they know about pollination process, fertilization process and germination of seeds.</li> </ol> <p>Activity 8.7- By using dicotyledon seed Introduce the parts like cotyledon, plumule, radicle.</p>	<ol style="list-style-type: none"> <li>1. In the reproduction process DNA self replication Forms an important part. Why?</li> <li>2. Sexual mode of reproduction produces more and more variations. Give reasons.</li> <li>3. How is pollination process different from fertilization?</li> </ol>

<p><b>02.</b></p>	<p><b>February fourth week. Chapter-08 How do organisms reproduce?</b></p>	<p><b>reproduction in flowering plants.</b></p> <p><b>5. Reproduction in Human beings.</b>  a) Male reproductive system.  b) Female reproductive system.</p> <p><b>6. Know about the menstrual cycle.</b></p> <p><b>7. Understand the importance of reproductive health.</b></p>	<p><b>6. By using the pictures of human reproductive system and PPT know about the different parts and functions performed by them.</b></p> <p><b>7. Know the importance of menstrual cycle.</b>  You tube link of samveda class,  <a href="https://www.youtube.com/watch?v=IGpmIkPLw">https://www.youtube.com/watch?v=IGpmIkPLw</a></p> <p><b>8. Understand about the consequences of unsafe sex, transmission of sexually transmitted diseases and methods to control unwanted pregnancy.</b>  You tube link of samveda class,  <a href="https://youtu.be/Ik-Vod85-9g?t=4">https://youtu.be/Ik-Vod85-9g?t=4</a>.</p>	<p><b>4. What are the physical changes found when a girl enters puberty?</b></p> <p><b>5. How does an embryo gets nutrition within the mother's body?</b></p> <p><b>6. A woman is using a copper-T, does it provide her protection against sexually transmitted disease?</b></p>
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## Activity sheet-01

Activity-1 : Observe the following table and answer the following questions,

<b>Dobereiner Triads</b> Classification Of Periodic Table		
<b>Li</b>	<b>Cl</b>	<b>Ca</b>
<b>Na</b>	<b>Br</b>	<b>Sr</b>
<b>K</b>	<b>I</b>	<b>Ba</b>



1. What is the name of this periodic table?

Ans: \_\_\_\_\_  
\_\_\_\_\_

2. Name the scientist who devised this periodic table.

Ans: \_\_\_\_\_  
\_\_\_\_\_

3. State the law governing this periodic table.

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. List out the advantages and limitations of this periodic table.

Ans:

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Activity 02

Prove the given following elements are triads,

Dobereiner's Triads					
Element	Atomic weight	Element	Atomic weight	Element	Atomic weight
Li	6.9	Ca	40.1	Cl	35.5
Na	23.0	Sr	87.6	Br	79.9
K	39.1	Ba	137.3	I	126.9


Ans:-



## Activity sheet-02

Activity-1 : Observe the following table and answer the following questions,

H	F	Cl	Co/Ni	Br	Pd	I	Pt/Ir
Li	Na	K	Cu	Rb	Ag	Cs	Tl
G	Mg	Ca	Zn	Sr	Cd	Ba/V	Pb
Bo	Al	Cr	Y	Ce/La	U	Ta	Th
C	Si	Ti	In	Zn	Sn	W	Hg
N	P	Mn	As	Di/Mo	Sb	Nb	Bi
O	S	Fe	Se	Ro/Ru	Te	Au	Os



1. What is the name of this periodic table?

Ans: \_\_\_\_\_  
\_\_\_\_\_

2. Name the scientists who devised this periodic table.

Ans: \_\_\_\_\_  
\_\_\_\_\_

3. State the law governing this periodic table.




Ans: \_\_\_\_\_  
\_\_\_\_\_

4. List out the advantages and limitations of this periodic table.


**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

### Activity sheet-03

Activity-1 : Observe the following table and answer the following questions,

Legend:  Dobereiner's triads    Known to Mendeleev    Unknown to Mendeleev

	<b>H</b> 1.01											
<b>He</b> 4.00	<b>Li</b> 6.94	<b>Be</b> 9.01	<b>B</b> 10.8	<b>C</b> 12.0	<b>N</b> 14.0	<b>O</b> 16.0	<b>F</b> 19.0					
<b>Ne</b> 20.2	<b>Na</b> 23.0	<b>Mg</b> 24.3	<b>Al</b> 27.0	<b>Si</b> 28.1	<b>P</b> 31.0	<b>S</b> 32.1	<b>Cl</b> 35.5					
<b>Ar</b> 40.0	<b>K</b> 39.1	<b>Ca</b> 40.1	<b>Sc</b> 45.0	<b>Ti</b> 47.9	<b>V</b> 50.9	<b>Cr</b> 52.0	<b>Mn</b> 54.9	<b>Fe</b> 55.9	<b>Co</b> 58.9	<b>Ni</b> 58.7		
	<b>Cu</b> 63.5	<b>Zn</b> 65.4	<b>Ga</b> 69.7	<b>Ge</b> 72.6	<b>As</b> 74.9	<b>Se</b> 79.0	<b>Br</b> 79.9					
<b>Kr</b> 83.8	<b>Rb</b> 85.5	<b>Sr</b> 87.6	<b>Y</b> 88.9	<b>Zr</b> 91.2	<b>Nb</b> 92.9	<b>Mo</b> 95.9	<b>Tc</b> (99)	<b>Ru</b> 101	<b>Rh</b> 103	<b>Pd</b> 106		
	<b>Ag</b> 108	<b>Cd</b> 112	<b>In</b> 115	<b>Sn</b> 119	<b>Sb</b> 122	<b>Te</b> 128	<b>I</b> 127					
<b>Xe</b> 131	<b>Ce</b> 133	<b>Ba</b> 137	<b>La</b> 139	<b>Hf</b> 179	<b>Ta</b> 181	<b>W</b> 184	<b>Re</b> 180	<b>Os</b> 194	<b>Ir</b> 192	<b>Pt</b> 195		
	<b>Au</b> 197	<b>Hg</b> 201	<b>Tl</b> 204	<b>Pb</b> 207	<b>Bi</b> 209	<b>Po</b> (210)	<b>At</b> (210)					
<b>Rn</b> (222)	<b>Fr</b> (223)	<b>Ra</b> (226)	<b>Ac</b> (227)	<b>Th</b> 232	<b>Pa</b> (231)	<b>U</b> 238						



1. What is the name of this periodic table?

Ans; \_\_\_\_\_

2. Name the scientist who devised this periodic table.

**Ans:** \_\_\_\_\_  
\_\_\_\_\_

**3. State the law governing this periodic table law.**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_

**4. Explain in brief about how Mendeleev devised his periodic table.**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**5. List out the advantages and limitations of this periodic table.**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## Activity sheet-04

Activity-1 : Observe the following table and answer the following questions,



1. What is the name of this periodic table?

Ans: \_\_\_\_\_

\_\_\_\_\_

2. Name the scientists who devised this periodic table.

Ans: \_\_\_\_\_

\_\_\_\_\_

3. State the law governing this periodic table.





**Activity sheet-05.**

As we move from left to right and from top to bottom in the periodic table, Complete the table given below according to change in trends and give reasons ( First row has been done)

<b>Property of the element.</b>	<b>From left to right</b>	<b>Reasons</b>	<b>From top to bottom</b>	<b>Reasons</b>
<b>Atomic size.</b>	<b>Decreases.</b>	<b>Electrons being added up to the same shell and an increase in nuclear charge which tends to pull the electrons closer to the nucleus and reduces the size of the atom.</b>	<b>Increases</b>	<b>As we go down new shells are added and increase in distance between nucleus and electron present in outermost shell.</b>
<b>Metallic properties (Electro positivity)</b>				
<b>NON-metallic properties ( Electro negativity)</b>				



**Practice sheet / Activity sheet-1**

**Class : 10**

**Subject: Science**

**Chapter:-8- How do organisms reproduce?**

**I. Four alternatives are given for each question. Choose the most appropriate one and write down with its serial number:- ( Practice book page number- 23, 24).**

**1. The number of chromosomes present in non reproductive body cells of an organism when compared to germ cells is**

**1) will be Equal 2) Half of it 3) Twice of it 4) Thrice of it.**

**Ans:\_\_\_\_\_**

**2. The female reproductive part of the flower is**

**1) Stamen 2) Petal 3) Pistil 4) Anther**

**Ans:\_\_\_\_\_**

**3. In humans the organ which acts as a bridge between mother and embryo for transfer and exchange of nutrients and waste substances is**

**1) Placenta 2) Fallopian tube 3) Cervix 4) Umbilical cord**

**Ans:\_\_\_\_\_**

**4. The process of stopping of the menstrual cycle is called**

**1) Menarche 2) Pregnancy 3) Menopause 4) Abortion.**

**Ans:\_\_\_\_\_**

**II Answer the following questions:-**

**1) What is meant by reproduction?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2) What do you mean by pollination?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3) Which of the human gametes is motile?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4) What do you mean by zygote?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**5) Give two reasons for the variations that occurs in the generations due to sexual reproduction.**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**6) What are the importance of DNA self replication?**

**Ans:**

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Practice sheet / Activity sheet-2

Class : 10

Subject: Science

**Chapter:-8- How do organisms reproduce?**

**I. Four alternatives are given for each question. Choose the most appropriate one and write down with its serial number:-**

**1. The part of the plant that grows into future shoot is**

**1) Radicle 2) Plumule 3) Cotyledons 4) Seed coat.**

**Ans:\_\_\_\_\_**

**2. The hormone responsible for sexual maturity in adolescent boys is**

**1) Progesterone 2) Insulin 3) Adrenalin 4) Testosterone.**

**Ans:\_\_\_\_\_**

**3. The tube which is helpful for fertilization after pollination process is**

**1) Pistil tube 2) Pollen tube 3) Pollen stalk 4) Stamens.**

**Ans:\_\_\_\_\_**

**II Answer the following questions:-**

**1. Distinguish between the male germ cells and female germ cells in humans.**

Sl no	Male germ cells	Female germ cells


**2. What are the physical changes that occur in boys during puberty?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. What are the three techniques devised to avoid pregnancy?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. List out the basic needs for sexual reproduction. What is the importance of sexual reproduction in nature?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**5. Compared to the other life processes what is the specialty about reproduction process?**

**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Practice sheet / Activity sheet-3**

**Class : 10**

**Subject: Science**

**Chapter:-8- How do organisms reproduce?**

**I Functions performed by reproductive system is given in list “A” and different parts of reproductive system is given in list “B” . Match them accordingly and write down,**

A- list	B-list	Answers
<b>1. From this organ the embryo gets nutrition from mother’s blood.</b>	<b>a. Uterus</b>	
<b>2. The fertilized egg ( Zygote) gets implanted in the lining of this organ.</b>	<b>b. Placenta</b>	
<b>3. The fusion of germ cells occurs here.</b>	<b>c. Vagina</b>	
<b>4. The part where female germ cells are produced.</b>	<b>d. Oviduct</b> <b>e. Cervix.</b> <b>d. Ovary.</b> <b>f. Eggs</b>	

**Note:- As we all know there shall be no match the following questions in optional subjects. Despite of this such questions are given to know about the process occurring in various parts of reproductive system.**

**2. Draw a neat labelled diagram depicting longitudinal section of flower.**

**Ans:**





**3. Draw a neat labelled diagram depicting germination of pollen on stigma.**

**Ans:-**



