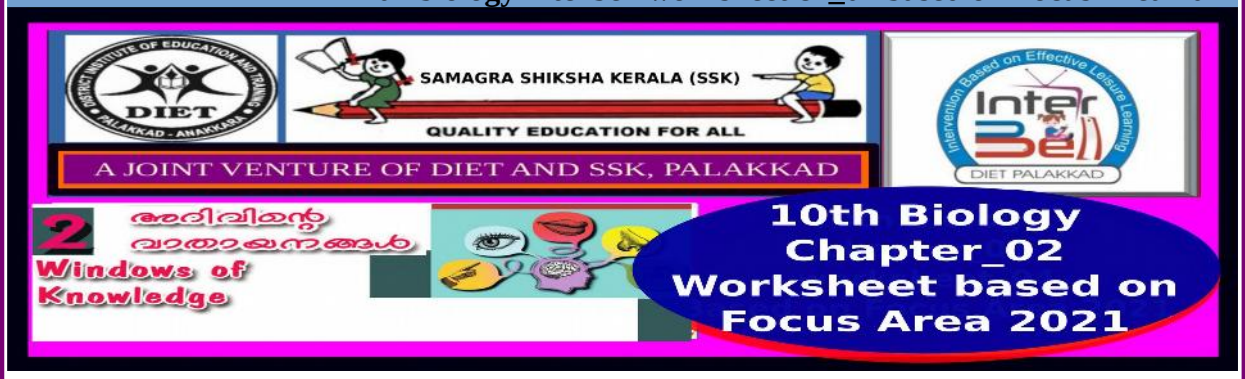


1.

Observe the figure given below and answer the question.

a) Identify A, B.

b) Which is the pigment in A?

c) Which is the eye disorder related to B?

2.

Vision is enabled when the impulse from the retina reaches the cerebrum through the optic nerve.

a) Draw a flow chart showing the pathway of light from cornea to retina.

b) There is no vision at the point where the optic nerve starts. Why?

3.

(a) Which are the photoreceptors present in the retina?

(b) How does the deficiency of vitamin A cause poor vision in dim light?

4.

Prepare two placards to be used in a rally organised by the school Science Club to propagate the importance of eye donation.

5.

Redraw the diagram and label the parts given below:

(a) Transparent anterior part of the sclera.

(b) Fluid that nourishes the tissues of the eye.

(c) The layer that has photoreceptors.

6.

Observe the figure given below and answer the questions:

(a) Which is the receptor seen in the figure?

(b) Which sense organ is this receptor seen in?

(c) What is the function of this receptor?

7.

Justify the statements given below:

(a) Smell can be detected only in the presence of mucus.

(b) Persons with colour blindness cannot distinguish between green and red colours.

8.

It is because of its taste that we like food. Given below are the different stages of experiencing taste. Analyse and arrange them in the correct order.

a) Experience of taste
b) Causes impulses
c) Food particles dissolve in saliva
d) Reaches taste buds
e) Impulses reach the brain
f) Chemoreceptors get stimulated

9.

Identify the word pair relatioship and fill in the blanks.

a) Retina : The inner layer which has photoreceptors
..... :The transparent anterior part of the sclera

b) Blind spot : The part from where the optic nerve begins
..... : The part where the image has maximum clarity

10.

Redraw the diagram and label the parts based on the functions given below.

a) The part which is adjusted with the intensity of light.
b) The part where photoreceptors are present.
c) The transparent anterior part of the sclera.
d) The muscles which help to alter the curvature of the lens
e) Transmits impulses from photoreceptors to the visual centre in the brain.
f) The chamber which is filled with a jelly like substance.
g) The layer made up of connective tissues which gives firmness to the eye.

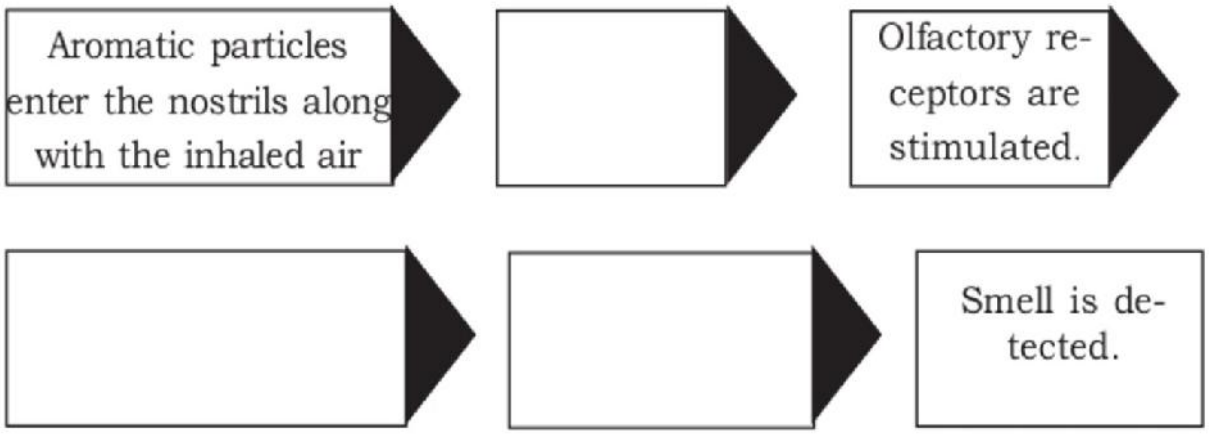
11.

Rearrange the flowchart related to sense of vision.

Light → Lens → Pupil → Vitreous humor → Aqueous humor → Optic nerve → Retina → Cerebrum → Cornea → Impulse → Sense of vision

12.

Complete the flowchart related to the sense of smell.



13.

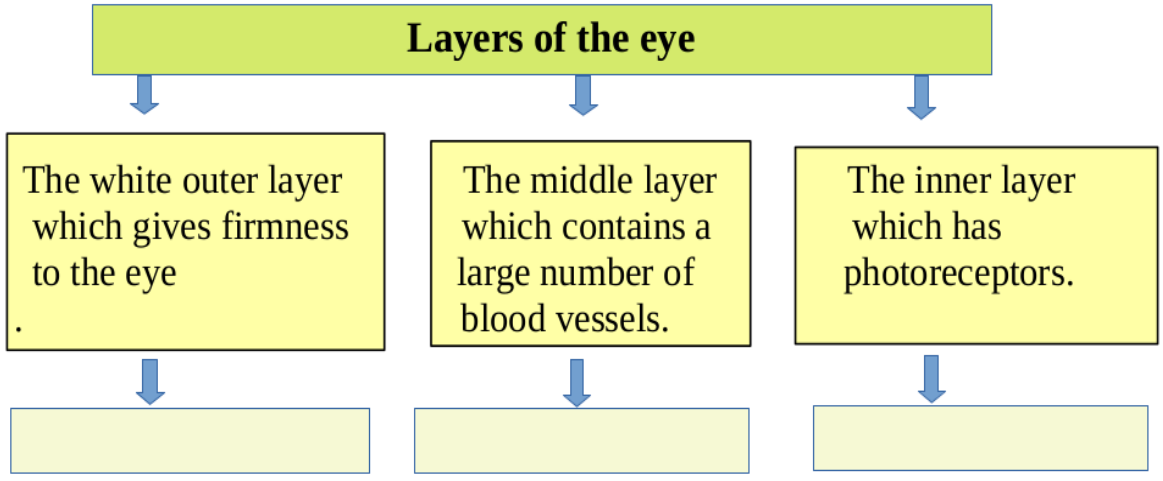
Which are the main tastes that stimulate our tastebuds ?

14.

3. Explain the necessity of including Vitamin A rich food items in daily diet for the health our eyes?

15.

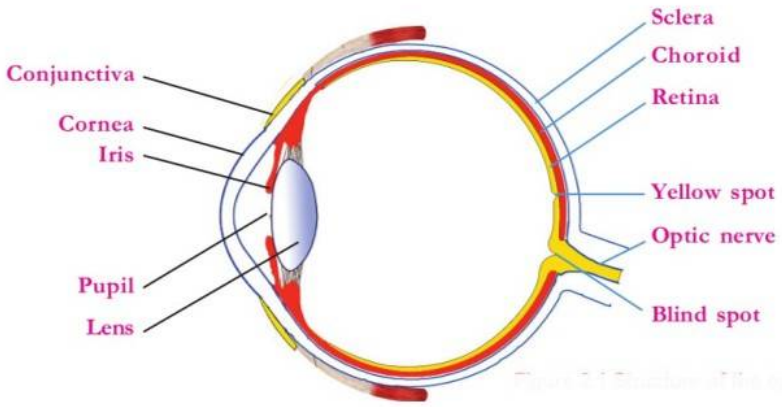
1. Complete the flow chart



16.

Observe the figure-Structure of the eye and complete the table given below

(TB- Figure 2.1)



Peculiarities	Parts
The projected transparent anteriorpart of the sclera	Cornea
The part of the choroid seen behind the cornea	
The layer which covers and protects the front part of sclera except the cornea.	
The aperture seen at the centre of the iris.	
Circular muscles seen around the lens	

17.

2. complete the table

	Rod cells	Cone cell
Pigment		Photopsin (Iodopsin)
Shape	Rod shape	
Function		Provide colour vision

18.

Give the reason and symptom of colour blindness

19.

Observe the given steps related to the experience of the smell and arrange them properly

- Aromatic particles diffuse in the air and enter the nostrils.
- The smell detecting olfactory receptors are stimulated
- Implses form in the olfactory receptors
- Forms the experience of the smell
- The impulses reach the brain through nerves
- These aromatic particles dissolve in the mucus inside the nostrils.

20.

There a possibility of not sensing the smell of food while suffering from common cold.Why?

21.

Observe the given steps related to the experience of the taste and arrange them properly

. The impulses reach the brain through nerves
. Substances responsible for taste dissolve in saliva
. The substances reach the taste buds through saliva
. Forms the experience of the taste
. The taste detecting chemoreceptors are stimulated
. Implses form in the chemical receptors

22.

Select suitable ones from the following and arrange them in the table given below.

a) Helps to detect colours.

b) Night Blindness

c) Rhodopsin

d) Helps in bright light vision

e) Photopsin

f) Helps in dim light vision

Rod cells	Cone cells

23.

The activities related to the sensation of taste is given below. Arrange them in the correct order.

1. **Impulses are generated.**
2. **Taste receptors are stimulated.**
3. **Impulses reach the brain.**
4. **Experiences the sense of taste.**
5. **Tatste molecules dissolve in saliva.**

24.

Qn.

Answer the following questions related to the sensation of tatste.

1. Where do the chemoreceptors related to the sense of tastes located?

2. Give the significances of taste buds.3. Name the tastes detected by the chemoreceptors in different taste buds.

25.

From the following box, select the the parts seen in the sclera, choroid and retina.

Conjunctiva, Blind spot, Cornea, Yellow spot, Pupil

26.

The possibility of occurrence of night blindness in Vitamin A deficient children is high. Based on this statement, answer the following questions.

a) How does the deficiency of vitamin A relate to night blindness?

b) Name any other disease caused by vitamin A deficiency.

27.

Analyse the following table and make suitable pairs based on the parts and their functions.

Part	Function
1 Optic nerve	1 The size of this aperture increases and decreases depending on the intensity of light.
2 Pupil	2 The point of maximum visual clarity.
3 Conjunctiva	3 Tha part that refracts light rays to focus on the retina.
4 Yellow spot	4 Alters the curvature of lens.
5 Ciliary nuscles	5 Covers and protects the front part of sclera except the cornea.
6 Cornea	6 Transmits impulses from photoreceptors to the visual centre in the brain.

28.

Compare the activities in identifying taste and smell and complete the table.

a) …… dissolves in mucus.	Food particles dissolve in saliva.
Olfactory receptors are stimulated.	b) …… are stimulated.
Impulses are formed.	Impulses are formed.
c) impulses reach the brain through the ……. nerve.	Impulses reach the d) ……. nerve.
e) Senses smell.	Senses taste.

29.

Arrange the following items related to the process of colour vision in a flow chart suitably.

- Photopsin is dissociated.
- Cone cells are stimulated in the presence of light.
- Impulses are generated.
- Form retinal and opsin.
- Forms the experience of vision.
- Impulses reach the brain through the optic nerve.

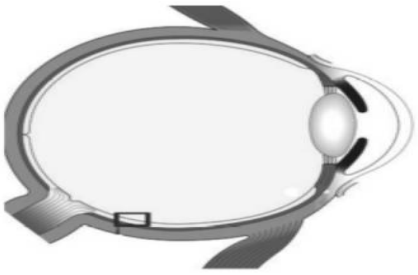
30.

Complete the following table related to photoreceptors.

Characteristics	Rod cells	Cone cells
Shape	……	……
Pigment	……	……
Function	……	……

31.

Copy the following figure and label the parts based on the hints.



a) Part where photoreceptors are seen.

b) The opening of the eye in the middle of the iris.

c) The part that focuses light rays in the retina.

32.

Analyse the following figure and answer the questions.

a) Identify the figure.

b) Name the vitamin necessary for the pigment in this cell.

33.

Find the word pair and fill.

The defect of cone cells: Colour Blindness

.....: Xeropthalmia.

34.

Correct the errors if any in the following statements related to the sensation of taste and arrange them in correct order.

1. Food particles dissolve in saliva.
2. Impulses reach the cerebrum.
3. Experiences the sense of taste.
4. Impulses form.
5. Chemo-receptors are stimulated.

35.

Using the following hints, prepare a flowchart showing the processes included in the sensation of smell.

a) Impulses reach the cerebrum through the gustatory nerve.

b) Smell particles dissolves in the mucus.

c) Gustatory receptors are stimulated.

d) Smell particles dissolves in the air.

e) Reaches the nasal cavity through inspiration.

f) Form impulses.

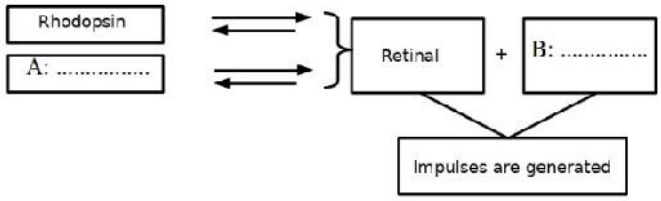
36.

Select the correct pair from the following.

1. Night blindness: The deficiency of Vitamin A
2. Colour Blindness - The excess pressure experienced in the eye.
3. Xerophthalmia- No vision in in dim light.

37.

Complete the follwoing flow chart.



38.

A person is suffering from dryness of his cornea. Formulate any three hypothesis on the circumstamces that may lead to this condition.

39.

Observe the following figures and answer the questions.

a) Identify the picture A and B.

b) Deficiency of the pigment of which cell causes night blindness?

c) The defect of which cell causes color blindness.

40.

Answer the following questions.

a) Which is the photoreceptor that enables colour vision?

b) The change in aminoacids in the opsin protein has a crucial role in colour vision. Substantiate.

41.

The possibility of occurrence of night blindness in children with deficiency of vitamin A is high. Based on this statement, answer the following questions.

a) How does the deficiency of vitamin A relate to night blindness?

b) Name any other disease caused by vitamin A deficiency.

42.

From the following, select the reason for the disease color blindness.

1. **Due to less amount of Cone cells.**
2. **The defect of Cone cells**
3. **the defect of photosensitive cells.**
4. **The defect of rod cells.**