



PERIODIC ASSIGNMENT 3- 20221-22

Grade – 8

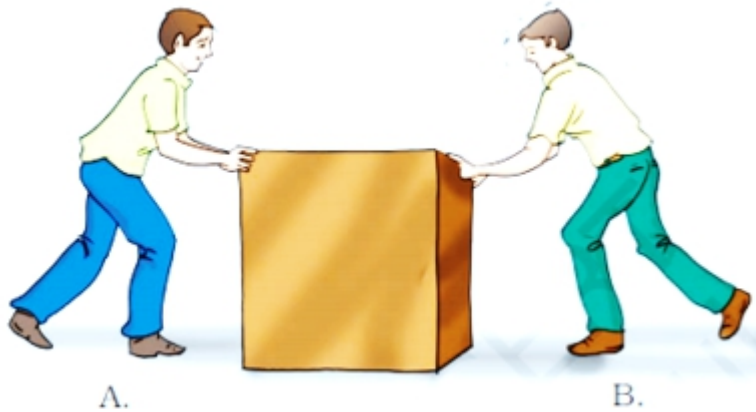
Subject-SCIENCE

Syllabus – CH-10,11,12

FROM TEXTBOOK

❖ **Multiple Choice Questions :-**

- Adolescents should be careful about what they eat, because
 - Proper diet develops their brains.
 - Proper diet is needed for the rapid growth taking place in their body.**
 - Adolescents feel hungry all the time.
 - Taste buds are well developed in teenagers.
- Reproductive age in women starts when their
 - Menstruation start.**
 - Breast start developing
 - Body weight increases
 - Height increases.
- The right meal for adolescents consist of
 - Chips, noodles, coke.
 - Chapatti, dal, vegetables.**
 - Rice, noodles and burger.
 - Vegetables cutlets, chips and lemon drink.
- When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to
 - Pressure of water.
 - Gravity of the earth.
 - Shape of rubber bulb.
 - Atmospheric pressure.**
- Four children were asked to arrange forces due to rolling, static and sliding frictions in a decreasing order. Their arrangements are given below.
Choose the correct arrangement.
 - Rolling, static, sliding
 - Rolling, sliding, static
 - Static, sliding, rolling**
 - Sliding, static, rolling
- Alida runs her toy car on dry marble floor, wet marble floor, newspaper and towel spread on the floor. The force of friction acting on the car on different surfaces in increasing order will be
 - Wet marble floor, dry marble floor, newspaper and towel**
 - Newspaper, towel, dry marble floor, wet marble floor
 - Towel, newspaper, dry marble floor, wet marble floor
 - Wet marble floor, dry marble floor, towel, newspaper
- In Fig. two boys A and B are shown applying force on a block. If the block moves towards the right, which one of the following statements is correct?



- a) Magnitude of force applied by A is smaller than that of B.
b) Magnitude of force applied by A is greater than that of B.
 c) Magnitude of force applied by A is equal to that of B.
 d) Net force on the block is towards A.

8. In the circuit shown in Fig, when the circuit is completed, the hammer strikes the gong. Which of the following force is responsible for the movement of a hammer?



- a) **Magnetic force alone**
 b) Electrostatic force alone
 c) Frictional force alone
 d) Gravitational force alone

9. Two objects repel each other. This repulsion could be due to

- a) magnetic force only
b) electrostatic force only
 c) either a magnetic or an electrostatic force
 d) frictional force only

10. Which one of the following forces is a contact force?

- a) Magnetic force
 b) Force of gravity
 c) Electrostatic force
d) Force of friction

11. Whenever the surfaces in contact tend to move or move with respect to each other, the force of friction comes into play

- a) only if one of the two objects is liquid
b) irrespective of whether the objects are solid, liquid, or gaseous.
 c) only if one of the two objects is gaseous.
 d) only if the objects are solid.

12. To sharpen the blade of a knife by rubbing it against a surface, which of the following will be most suitable?

- a) **stone**
- b) wooden block
- c) glass block
- d) plastic block

13. A toy car released with the same initial speed will travel farthest on

- a) cemented surface
- b) brick surface
- c) muddy surface
- d) **polished marble surface**

14. If we apply oil on door hinges, the friction will

- a) increase
- b) **decrease**
- c) will remain unchanged
- d) disappear altogether

❖ **Fill in the blanks.**

1. Humans become capable of reproduction after puberty sets in. Between the ages of 11 years and 19 years children are called **adolescents**.
2. **Hormones** are secretions of endocrine glands which pour them directly into the blood stream.
3. To draw water from a well, we have to **pull** at the rope.
4. A charged body **attracts** an uncharged body towards it.
5. To move a loaded trolley, we have to **pull** it.
6. The north pole of a magnet **repels** the north pole of another magnet.
7. Friction opposes the **relative motion** between the surfaces in contact with each other.
8. Friction depends on the **nature** of surfaces.
9. Friction produces **heat**.
10. Sprinkling of powder on the carom board **reduces** friction.
11. Sliding friction is **less** than the static friction.

❖ **Match the following**

1.

a. sliding friction	i) heat production
b. static friction	ii) applying brakes
c. polishing surfaces	iii) greater than kinetic friction

d. advantage of friction	iv) greater than rolling friction
e. disadvantage of friction	v) decreases friction

Ans. a. iv, b. iii, c. v, d. ii, e. i.

2.

a. force	i) contact force
b. pressure	ii) measure of gravity on object
c. friction	iii) force per unit area
d. gravity	iv) push and pull
e. weight	v) action at a distance force

Ans.a. iv, b. iii, c. i, d. v, e. ii.

3.

a. infancy	i) 11 to 12 yrs
b. adolescence	ii) 14 to 15 yrs
c. puberty in female	iii) from birth to 2 yrs
d. childhood	iv) from 11 to 18 yrs
e. puberty in male	v) 2 to 11 yrs

Ans. a. iii, b. iv, c. i, d. v, e. ii.

❖ Short Question Answer

1. Name the hormone that is released by testes at the onset of puberty.

Ans: At the onset of puberty, the testes release the male hormone called testosterone.

2. Name the female hormone produced by ovaries that helps in the development of mammary glands.

Ans: At the onset of puberty, the ovaries in females release female hormone called estrogen. Estrogen helps in the development of mammary glands (milk-producing glands).

3. Fill the blank circles in figure 10.1 and identify the sex of child A and B.

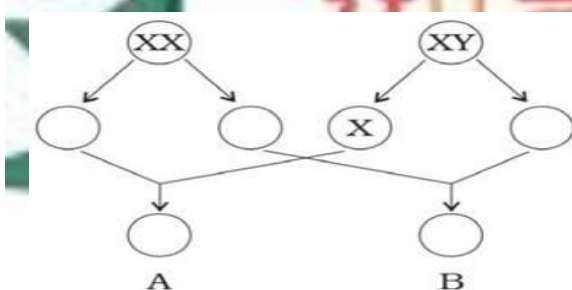
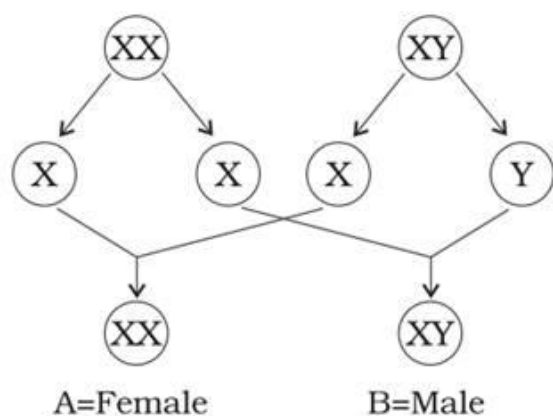


Fig. 10.1

Ans: Child A is female child. Child B is male child.



4. We should avoid taking medicines/drugs unless prescribed by a doctor. Give reasons.

Ans: Several medicines have adverse side effects and have specific dosage levels which, if not followed, may harm the body. Drugs can be addictive too and can ruin our health and happiness. Hence, medicines/drugs should be avoided unless prescribed by a doctor.

5. Define adolescence.

Ans. Adolescence is the period of life, when the body undergoes changes, leading to reproductive maturity. It begins around the age of 11 and lasts till 18 or 19 years of age. The period of adolescence may vary from person to person.

6. What is menstruation? Explain.

Ans. Menstruation is the process of the shedding of the uterine lining on a regular monthly basis in woman. During menstruation the uterus wall along with blood vessels break off. This causes blood to come out and a new wall of uterus is formed. Menstruation lasts generally for 4 to 5 days.

7. List changes in the body that take place at puberty.

Ans. The onset of puberty brings about:

Growth of the reproductive organs which begin to function.

Hair growth at various places of the body. Breasts develop in girls and facial hairs appear in boys.

Voice of the boys becomes hoarse as voice box enlarges during adolescence.

8. Where do we apply a force while walking?

Ans: While walking, we apply a force on the ground against the force of friction.

9. A ball of dough is rolled into a flat chapatti. Name the force exerted to change the shape of the dough.

Ans: The shape of the dough is changed through the action of body muscles. The resulting force is called the muscular force.

10. Give two examples each of situations in which you push or pull to change the state of motion of objects.

Ans. Two examples of push force are as follows:

A heavy box at rest is pushed to move it from one room to another. This changes the state of motion of the box.

A player pushes a football using his foot. This changes the state of motion of the ball.

Two examples of pull force are as follows:

Rope is pulled to draw water from a well. This changes the state of motion of the water bucket.

A drawer is pulled to open it. This changes the state of motion of the drawer

11. Give two examples of situations in which applied force causes a change in the shape of an object.

Ans. (i) Making a chapati from a ball of dough.

(ii) Stretching of rubber band.

12. Will force of friction come into play when a rain drop rolls down a glass window pane?

Ans: Yes, the force of friction will come into play when a rain drop rolls down a glass window pane.

13. While playing tug of war (Fig.12.4), Preeti felt that the rope was slipping through her hands. Suggest a way out for her to prevent this.



Ans: Preeti can rub soil between her hands to increase the friction between the rope and her hands. Increased friction will prevent slipping of rope through her hands.

14. Is there a force of friction between the wheels of a moving train and iron rails? If yes, name the type of friction. If an air cushion can be introduced between the wheel and the rail, what effect will it have on the friction?

Ans: Yes, the force of friction between the wheels of a moving train and iron rails is rolling friction. If an air cushion is introduced between the wheels and the rails, the friction between the two surfaces will decrease.

15. You spill a bucket of soapy water on a marble floor accidentally. Would it make it easier or more difficult for you to walk on the floor? Why?

Ans. it is difficult to walk on a soapy floor because soapy floor reduces the frictional force and hence we can slip on such floors.

16. Explain why sportsmen use shoes with spikes.

Ans. It is done to provide the shoes better grip on the ground.

17. Iqbal has to push a lighter box and Seema has to push a similar heavier box on the same floor. Who will have to apply a larger force and why?

Ans. Seema will have to apply a larger force, because the force of friction is increased if two surfaces are pressed harder. So heavier box will apply more force on the floor and hence seema will experience more frictional force.

18. Explain why sliding friction is less than static friction.

Ans. Suppose a box kept on the surface has to be pushed. If the box is slide then, when the box starts sliding, the contact points on its surface do not get enough time to lock into the contact point on the floor. So, the sliding friction is slightly less than the static friction and we find it easier to move the box already in motion than to get it started.

❖ Long Questions Answers:-

1. In Fig.10.2 mark the positions of the endocrine glands which release the hormones that:
- (a) Controls the release of sex hormones.
 - (b) Is responsible for the secondary sexual characters in boys.
 - (c) Prevents diabetes.
 - (d) Maintains the correct salt balance in the blood.

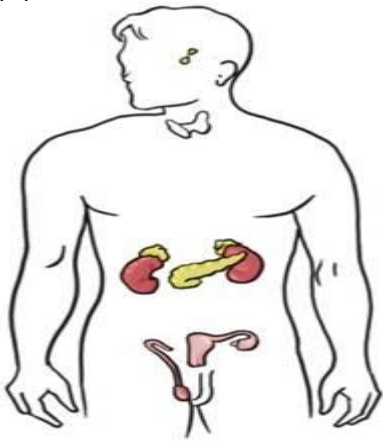
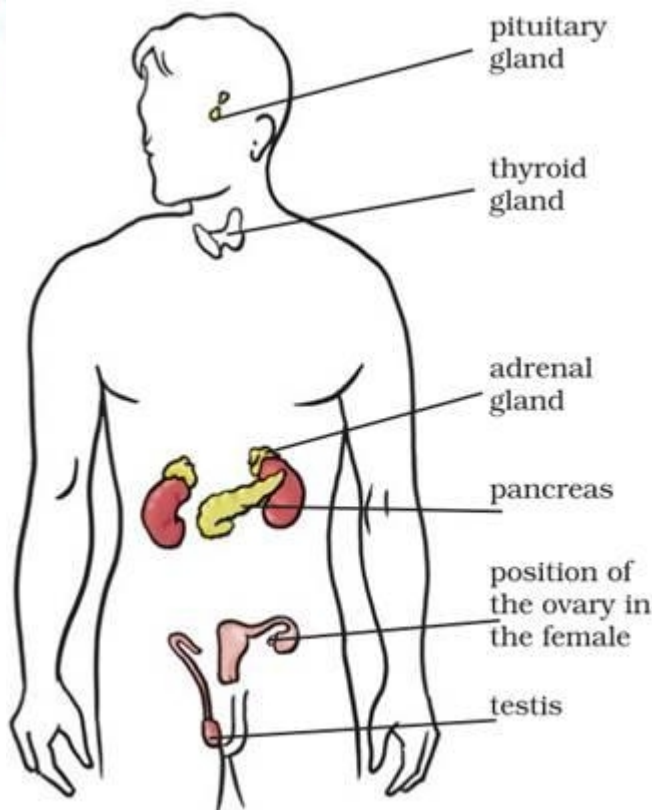


Fig. 10.2

Ans: The position of the endocrine glands have been marked in the figure:



2. In human females, each time during menstruation and release of egg, the inner wall of uterus thickens. Is this thickening permanent? Give reasons.

Ans. No, this thickening of the uterine wall is not permanent.

If the egg gets fertilised, it starts developing and gets embedded in the uterine wall resulting in pregnancy. During pregnancy, no more eggs are released and the thickened lining of the uterus is discharged only when the baby is born.

However, if fertilisation does not occur, the released egg and the thickened lining are shed off resulting in menstruation.

3. Give examples to show that friction is both a friend and foe.

Ans.

Friction as a friend:

To hold a glass, we have ridges on our palm, which increase the friction between palm and glass. We do write anything with pen or pencil because there is friction between the surfaces of paper and point of pen or pencil.

Teacher writes on black-board with chalk because of friction between black-board surface and the chalk.

If there is no friction, then a moving body would never stop.

Friction as a foe:

Friction wears out materials, whether they are screws, ball-bearing or soles of shoes.

Friction can also produce heat, which increases wear and tear of machine parts. It also causes much wastage of energy because this heat is not utilized.

4. Explain why objects moving in fluids must have special shapes.

Ans. When a body moves through a fluid, it experiences an opposing force which tries to oppose its motion through the fluid. This opposing force is known as the drag force. This frictional force depends on the shape of the body. By giving objects a special shape, the force of friction acting on it can be minimised. Hence, it becomes easier for the body to move through the fluid.

5. Two friends are trying to push a heavy load as shown in Fig.12.5. Suggest a way which will make this task easier for them.



Fig. 12.5

Ans: It would be easier for the friends to roll the load than to slide it. They can put rollers below the heavy load. Rolling friction is smaller than sliding friction. Putting rollers below the heavy load will make the task easier for them.

6. Two women are of the same weight. One wears sandals with pointed heels while the other wears sandals with flat soles. Which one would feel more comfortable while walking on a sandy beach? Give reasons for your answer.

Ans: The woman wearing "sandals with flat soles" will feel more comfortable while walking on the sandy beach.

Since the two women are of the same weight, they will apply the same amount of force on the sand. The area of contact of "sandals with flat soles" will be larger as compared to the area of contact of "sandals with pointed heels". The pressure exerted by the pointed heels will be more than that exerted by "sandals having flat soles". As a result, the pointed heels will sink in the sand and offer higher friction to walking.

