Worksheet

1) Ans) The water can change from a liquid to a gas
2) Ans) The process by which a solid changes directly to gas
3) Ans) A substance changes from a liquid to a gas (or vapor) naturally
4) Ans) The physical forms in which a substance can exist, includes solid, liquid, gas & plasma
5) Ans) all of these
6) Ans) Frictional force
7) Ans) all of these
8) Ans) Polished marble surface
9) Ans) Contact force
10) Ans) Sliding friction
11) Ans) Force, direction, moving
12) Ans) muscular force, frictional force
13) Ans) motion, force
14) Ans) against
15) Ans) a) - gravitational force b) - frictional force.
c) - muscular force d) - muscular & gravitational
16) Ans) a) 1 metric ton
b) 0.01 metre
c) 0.001 metre
d) 3 foot
e) 0.01 metre
f) 10 metre
g) 100 metre
h) 0.001 kg
i) 0.00001 kg
j) 453.592 grams
k) 3600
l) 31536000 seconds
m) 86400 seconds
n) 100^2 metres

o) 10000^2 metres
p) 1000000^2 metres
q) 100^2 cm
r) 0.0001^2 metre
s) $1 \times 10^{-6^2}$ m
t) 0.836^2 m
u) 0.0929^2 metre
v) 4046.856^2 m

17) Ans) effects of friction:
- wear & tear
- friction opposes motion
- friction produces heat.

18) Ans factors that affect friction
- smooth surface reduces friction
- extra force applied to friction causes to overcome the friction.

19) Ans) Static friction - The maximum opposing force between the object and the surface in contact with it, so long as the object remains stationary even on applying the external force, is called the static friction

Sliding friction - When the body begins to slide on a surface, the force exerted by the surface on the object is called the sliding friction.

Rolling friction - When an object rolls over a surface, the force which opposes the rolling motion of the object is called the rolling friction

20) Ans disadvantages of friction :→
- Wear & tear
- Produces heat
- Opposes motion

21) Ans being rubbed on a rough surface allows the matchstick to catch fire, cause when the matchstick is being rubbed on the rough surface, the heavy friction opposing it allows it to catch fire.

22) Ans The sole of shoes get worn out cause of the force of friction / frictional force

23) a) 1 foot
b) 30.48 cm
c) 0.020 m
d) 420 cm
e) 200 metres
f) 2 millimetres
g) 0.9144 meters

24) Ans APPLIED FORCE - Push / pull that acts on an object
Tension - The state of being stretched tight
friction - force that opposes the relative motion between the 2 surfaces in contact with each other.

25) c) Solids:
Not compressable
strong intermolecular force
less intermolecular space
liquid-
Almost incompressable
less intermolecular force as compared to solids.
more intermolecular space as compared to solids.
Gas-
compresable
least intermolecular force
most intermolecular space
26) b) Most substances chang their state by applying heat cause, when the heat passes through the molecule, they start to vibrate and the get away from one each other reducing the intermolecular force and increasing the intermolecular space.
Solid heat → liquid heat → gas
27) a) a) Machines are oiled time to time so that they don't get rusted and they run smoothely as they did
b) An object thrown upward comes down due to gravitational force.

c) Powder is sprinkled on carrom board to reduce friction.

28) Ans) We can increase friction by:
rough surface
straight ~~inclined~~ surface
We can decrease friction by:
smooth surface
inclined surface

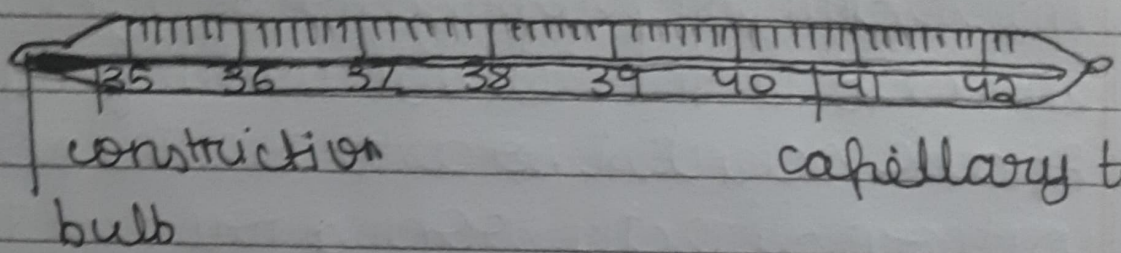
29) Ans) If the cartilage wears off, the the smoothness in our joint will reduce.

30) Ans) The mass of a body is the quantity of matter contained in it.
SI Unit - kilogram (kg)
CGS - gram (g)
FPS - pound (lb)

31) A) a) 0.2 metric ton d) 0.250 kg
b) 1.5 quintal e) 100 g
c) 4.536 kg f) 5×10^{-6} kg

32) B) A clinical thermometer has markings from 35°C to 42°C. It has a slight bend/kink in the stem just above the bulb. This kink is called constriction. This constriction prevents the mercury from falling back all by itself. The temperature of a healthy person is 37°C. This temp. is marked by a red arrow.

Clinical thermometers marked in °F are also available. They have marking from 95° F to 110° F. The red arrow indicating the temperature of a healthy person is at 98.6° F



33) a) A) S.I unit of length - metre, time - second, mass - kg

b) A) Centrigrade

c) A) 1000 kilograms

d) A) ~~clinical~~ ice

e) clinical

f) 37°C / 98.6°F

34) A) Take 100 ml of water in beaker A and dissolve 2-3 crystals of potassium permanganate in it. You will get a deep purple coloured solution. Take 10 ml of this solution and mix it with 90 ml of water in beaker B. You will observe that the colour of the solution is not as dark as the solution in beaker A. This experiment shows that a single crystal of potassium permanganate is made up of a large number of tiny particles which mixes with water.