

STEAM EDUCATION

CLASS-6

SCIENCE

Chapter- Cleanliness and Hygiene

Keep your body healthy, strong and bright,
Eat nutritious food, morning, noon, and night.
Fruits and veggies, whole grains too,
Help your body grow, with energy anew.

Vitamin A for vision, Vitamin C for might,
Vitamin D for bones, shining with delight.
Iron for blood, Calcium for bones so strong,
Protein for muscles, all day long.

But beware of diseases, that can make you blue,
Like Diabetes, and Hypertension, too.
And don't forget about Malaria, and Typhoid fever,
Prevent them with care, and a healthy life to deliver.

Wash your hands, before you eat,
Soap and water, can't be beat.
Germs and microbes, they can't survive,
Clean hands, healthy life!

Exercise regularly, it's fun to play,
Outdoor games, or dance, every single day.
Keep your heart healthy, with a happy grin,
Exercise and sports, let the fun begin!

Cleanliness is key, to a healthy life,
Keep your surroundings, free from strife.
Dispose of waste, in the right bin,
Keep your community, clean and green within!

Drink plenty of water, to stay hydrated too,
A healthy body, is a happy you!

Chapter- force and measurement of distances

Acronyms

1. $S = D / T$
- Acronym: "Sanjay Drives Taxi" (SDT)
2. $V = D / T$
- Acronym: "Vijay Drives Train" (VDT)
3. $A = \Delta V / \Delta T$
- Acronym: "Amit's Dad Velocity" (ADV)

Poem

Sanjay Drives Taxi (SDT) with speed so fine,
Distance divided by time, all the time!
Vijay Drives Train (VDT) with velocity so bright,
Displacement divided by time, day and night!

Amit's Dad Velocity (ADV) helps us understand,
Acceleration's change in velocity, hand in hand!
Meter's the unit, for measuring length with ease,
Centimeter, millimeter, and kilometer, if you please!

Chapter- Elements and Compounds

Poem-1

Elements

1. *H*ydrogen -
- Acronym: "Harry" (H)
2. *C*arbon -
- Acronym: "Chacha" (C)
3. *N*itrogen -
- Acronym: "Nana" (N)
4. *O*xygen -
- Acronym: "Om" (O)
5. *S*ulfur -
- Acronym: "Sunny" (S)

Compounds

1. *H₂O* (Water) -
- Acronym: "Hari Om" (H₂O)
2. *CO₂* (Carbon Dioxide) -
- Acronym: "Chacha Oxygen Double" (CO₂)
3. *NaCl* (Sodium Chloride/Salt) -
- Acronym: "Nana Aunty Comes Late" (NaCl)

Hari Om (H₂O) is essential for life,
Chacha (C) helps plants grow with all his might.
Nana (N) and Om (O) join hands in the air,
Forming a bond that's strong and fair.

Chacha Oxygen Double (CO₂) is present everywhere,
Helping plants grow with its gentle care.
Nana Aunty Comes Late (NaCl) adds flavor to our food,
Making life delicious, as it should.

Poem-2

In the world of science, where elements roam,
There's Hydrogen, Helium, and Oxygen to call home.
Nitrogen's N_2 , a gas we breathe with glee,
And Carbon's C, a basis for you and me.

Water's H_2O , a compound we drink every day,
And Salt's $NaCl$, a flavor that's here to stay.
Sugar's $C_6H_{12}O_6$, a sweet treat for young and old,
And Baking Soda's $NaHCO_3$, a formula to behold.

Calcium's Ca, for strong bones and teeth so bright,
And Iron's Fe, for healthy blood that flows with all its might.
Copper's Cu, for wires that connect and transmit with ease,
And Zinc's Zn, for immune systems that fight off disease with expertise.

So learn these elements and compounds with flair,
And remember their formulas, without a single care.
For science is fun, and learning's a breeze,
When elements and compounds come alive with ease!

Separating Mixtures

Sieving

Can separate large particles from small particles.

Sieve

- The sand and rock mixture is shaken through.
- The small holes in the sieve let the sand particles through and prevent the larger rocks from passing through.



Filtration

Can separate solids that are insoluble from a liquid.

Filter Paper

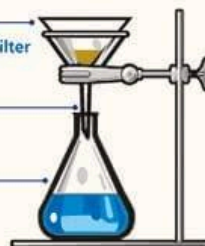
Sand gathers in the filter paper. Water passes through.

Funnel

Channels the water into the flask.

Flask

Gathers the water after filtration.



Evaporation

Can separate solids that are soluble from a liquid.



Salt Water

Evaporating Dish
Water evaporates into the air, leaving only the salt.

Bunsen Burner
Heats the salt water so that it boils and turns to steam.

Condensation

Condensing is when water vapour changes into liquid water.



Cold Surface

The steam hits the surface and condenses into water droplets.

Bunsen Burner

Heats the water so that it boils and turns to steam.

Chromatography

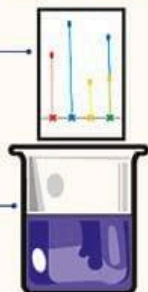
Can separate different colour dyes.

Paper

- Spots of ink are placed on a pencil line.
- Solvent soaks up to the ink and each colour seeps upwards at a different rate.

Solvent

The paper is placed in the solvent which soaks up to the ink spots.



Distillation

Can separate a solvent from a solution.

Flask

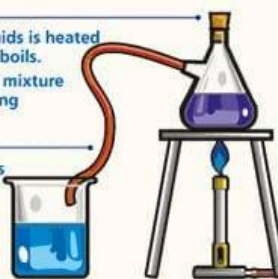
- A mixture of liquids is heated from below and boils.
- The water in the mixture evaporates leaving the remainder.

Condenser

Steam condenses in the tube.

Beaker

Pure, distilled water collects in the beaker.



TECHNOLOGY AND ENGINEERING

Chapter- Scratch software

Acronym for "If-Else" Block - IFE

If it's true, then do this,
For false, something else to miss,
Else, a new action will take place,
Decisions in Scratch, a logical space!

"Change" Block Jingle

🎵 Change the size, change the color,
Change the number, no need to bother!
Use the "change" block, don't wait,
It's simple, and it's really great! 🎵

Acronym for "Change X by" and "Change Y by" - XY

X for horizontal, Y for vertical,
Change the position, fast and magical!
Move your sprite up, down, left, or right,
With XY, your sprite takes flight!

Chapter- HTML

"HTML Tag Poem - The Basics"

HTML tags are all you need,
To make your website take the lead!
Start with <html>, it's the base,
Then <head> and <body>, give your page some space.

Headers with <h1>, <h2> too,
And paragraphs with <p>, it's easy to do!
Add links with <a href>, click and go,
And images with , now you know!

"The List Tag Poem"

For a list of things, unordered or ordered,
Use or , they're never ignored.
With inside, the list will grow,
Items in order, easy to show!

"The Table Tag Poem"

For rows and columns, just use <table>,
Add <tr> for rows, neat and stable.
Columns with <td>, they fit so right,
Make your data come to life, in sight!

Chapter- Internet

"URL" Acronym - Where to Go!

Uniform Resource Locator, you see,
It's your address on the internet, so free!
Type it in, and away you'll go,
To a website or page you want to know!

"IP Address" Poem

The IP address is a unique key,
To find your computer across the sea.
It's a number, a series, that makes a mark,
So every device can leave its spark!

"The Cloud" Poem

The cloud stores data high in the sky,
Access it anytime, oh my!
Pictures, files, and things galore,
In the cloud, you'll find much more!

"Firewall" Poem

A firewall keeps your data safe,
From hackers trying to invade your space.
It's a barrier, strong and tall,
Protecting your computer from a fall!

"Router" Acronym - The Internet Highway

Routing your signals all around,
On the internet, it's data bound.
Understanding its role, it's clear to see,
Transmitting info efficiently.
Every device connected fast,
Router keeps the data flow vast!

ARTS

Topic- 7 wonders of the World

सात अजूबे, दुनिया के,
हर कोई देखे, सपनों में!"
Taj Mahal, so white and bright,
प्यार की मूर्त, shines in light!
Great Wall, so long, so high,
मीलों तक फैली, छूती है sky!
Petra stands with rocks so red,
पत्थरों में इतिहास embed!
Christ the Redeemer, arms so wide,
प्रेम का संदेश, दुनिया guide!
Machu Picchu, lost in the hills,
इंका का जादू, gives us thrills!
Colosseum, Rome का pride,
ग्लैडिएटर्स की याद still inside!
Chichen Itza, Mayan grace,
खगोल विज्ञान, time does trace!

Topic- Rivers of India

India flows with rivers so grand,
Each one lifeline to the land.

GMBKGN – Ganga first, so pure and wide,
Mahanadi flows with eastern pride.
Brahmaputra, strong and free,
Krishna sings to the southern sea.
Godavari, rich and vast,
Narmada flows with a story past.

"North में बहती GYSR की धार,
Ganga, Yamuna, Saraswati, Ramganga अपार!"
"South में बहती KGCP की लहर,
Krishna, Godavari, Cauvery, Pennar."
"West की नदियाँ NSTM कहाती,
Narmada, Sabarmati, Tapi संग Mahi!"
"East में गूंजे GBKM की बानी,
Godavari, Brahmani, Krishna, Mahanadi!"
YSGRG – Ganga की बेटी Yamuna आई,
Son, Ghaghara, Ramganga, Gandak संग लाई!

"Rivers unite, a nation's soul,
Their waters whisper, make us whole!"

Topic- types of forests

DREAMT

(Because forests are nature's dream)

D – Dry leaves rustle in golden light (*Dry Deciduous*)

R – Rivers weave through trees so bright (*Rainforest / Evergreen*)

E – Eagles soar where hills stand tall (*Montane Forests*)

A – Arches of roots in waters crawl (*Mangrove Forests*)

M – Misty greens hug the sky (*Moist Deciduous*)

T – Thorny shrubs where deserts lie (*Thorn Forests*)

Topic- layers of earth

"The Smart Man Talks Everything"

(T) Troposphere – Closest to Earth, where weather occurs

(S) Stratosphere – Contains the ozone layer

(M) Mesosphere – Where meteors burn up

(T) Thermosphere – Contains the ionosphere, auroras occur

(E) Exosphere – Outermost layer, merges into space

MATHEMATICS

Topic- Mensuration and Ratio & Proportion

Perimeter's the distance, around a shape so fine,
 $P = 2(l + b)$ for rectangles, all the time.
 $P = 2\pi r$ for circles, don't you forget,
 $P = a + b + c$ for triangles, you won't regret.


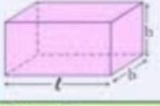
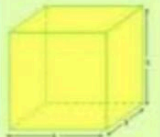




Area's the space, inside a shape so bright,
 $A = l \times b$ for rectangles, shining with delight.
 $A = \pi r^2$ for circles, a formula so divine,
 $A = (b \times h) / 2$ for triangles, all the time!

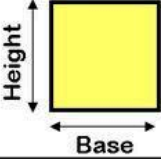
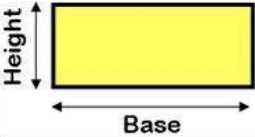
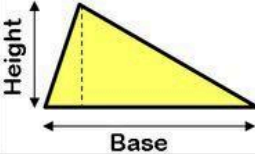
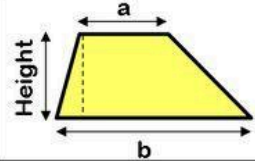
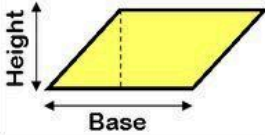
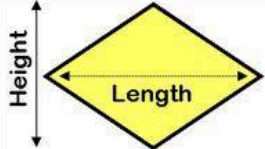
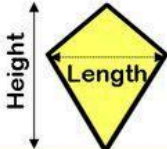
But Ratio's a comparison, of two quantities so fine,
 $a:b$ or a/b , a ratio's simple design.
Equivalent Ratio's $a/b = c/d$, don't you see,
Multiplying or dividing, by the same number, proportionally!

Proportion's a statement, of equal ratios so bright,
 $a/b = c/d$, a proportion, shining with delight.
Means and Extremes, in proportion so fine,
 $ad = bc$, a formula, all the time!

So learn these formulas, and you'll be just fine,
Perimeter, Area, Ratio, and Proportion, all in line!

Topic- Mensuration

<div>  Mensuration II क्षेत्रमिति II </div>				
Figure आकृति	Lateral Surface Area पार्श्वीय पृष्ठीय क्षेत्रफल	Total Surface Area अपूर्ण पृष्ठीय क्षेत्रफल	Volume आयतन	Abbreviations संक्षेपण
Cuboid घनाब 	$2lh + 2bh$ or $2(l + b) \times h$	$2(lb + bh + lh)$	lbh	$l = \text{length}$ लम्बाई $b = \text{breadth}$ चौड़ाई $h = \text{height}$ ऊँचाई
Cube घन 	$4s^2$	$6s^2$	s^3	$s = \text{side}$ भुजा
Right Circular Cylinder लंब वृत्तीय बेलन 	$2\pi rh$	$2\pi r(h + r)$	$\pi r^2 h$	$\pi = 3.14 \text{ or } \frac{22}{7}$ $r = \text{radius}$ त्रिज्या $h = \text{height}$ ऊँचाई
Right Circular Cone लंब वृत्तीय शंकु 	$\pi r l$	$\pi r(l + r)$	$\frac{1}{3} \pi r^2 h$	$\pi = 3.14 \text{ or } \frac{22}{7}$ $r = \text{radius}$ त्रिज्या $h = \text{height}$ ऊँचाई $l = \text{slant height}$ तिर्यक ऊँचाई $l = \sqrt{h^2 + r^2}$
Sphere गोल 	$—$	$4\pi r^2$	$\frac{4}{3} \pi r^3$	$\pi = 3.14 \text{ or } \frac{22}{7}$ $r = \text{radius}$ त्रिज्या
Hemisphere अर्धगोल 	$2\pi r^2$	$3\pi r^2$	$\frac{2}{3} \pi r^3$	$\pi = 3.14 \text{ or } \frac{22}{7}$ $r = \text{radius}$ त्रिज्या

Shape	Name	Formula for Area
	Square	Base x Height
	Rectangle	Base x Height
	Triangle	Base x Perpendicular Height ÷ 2
	Trapezium	$\frac{(a + b) \times \text{height}}{2}$
	Parallelogram	Base x Perpendicular Height
	Rhombus	Length x Height ÷ 2
	Kite	Length x Height ÷ 2