પુ•ના International School

Shree Swaminarayan Gurukul, Zundal

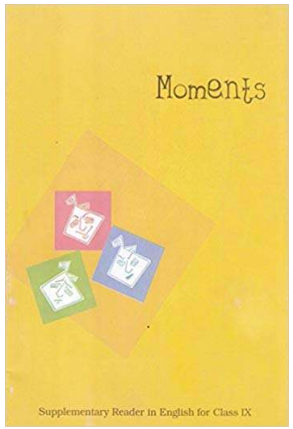
Class 9

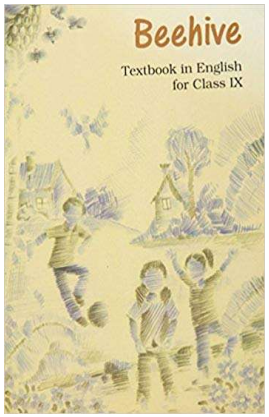
Reflections on Teaching methodology For August 2019

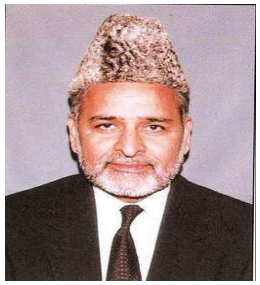
Subjects:

1) English
2) Maths
3) Hindi
4) Social studies
5) Science

Glance at English lessons of AUGUST 2019







Vaikom MBasheer
The Snake And The Mirror

APJ Abdul Kalam
My Childhood

W B Yeats
The lake Isle Of Innisfree

Oscar Wild
1) The Happy Prince
2) In The Kingdom Of fools

AK Ramanujan

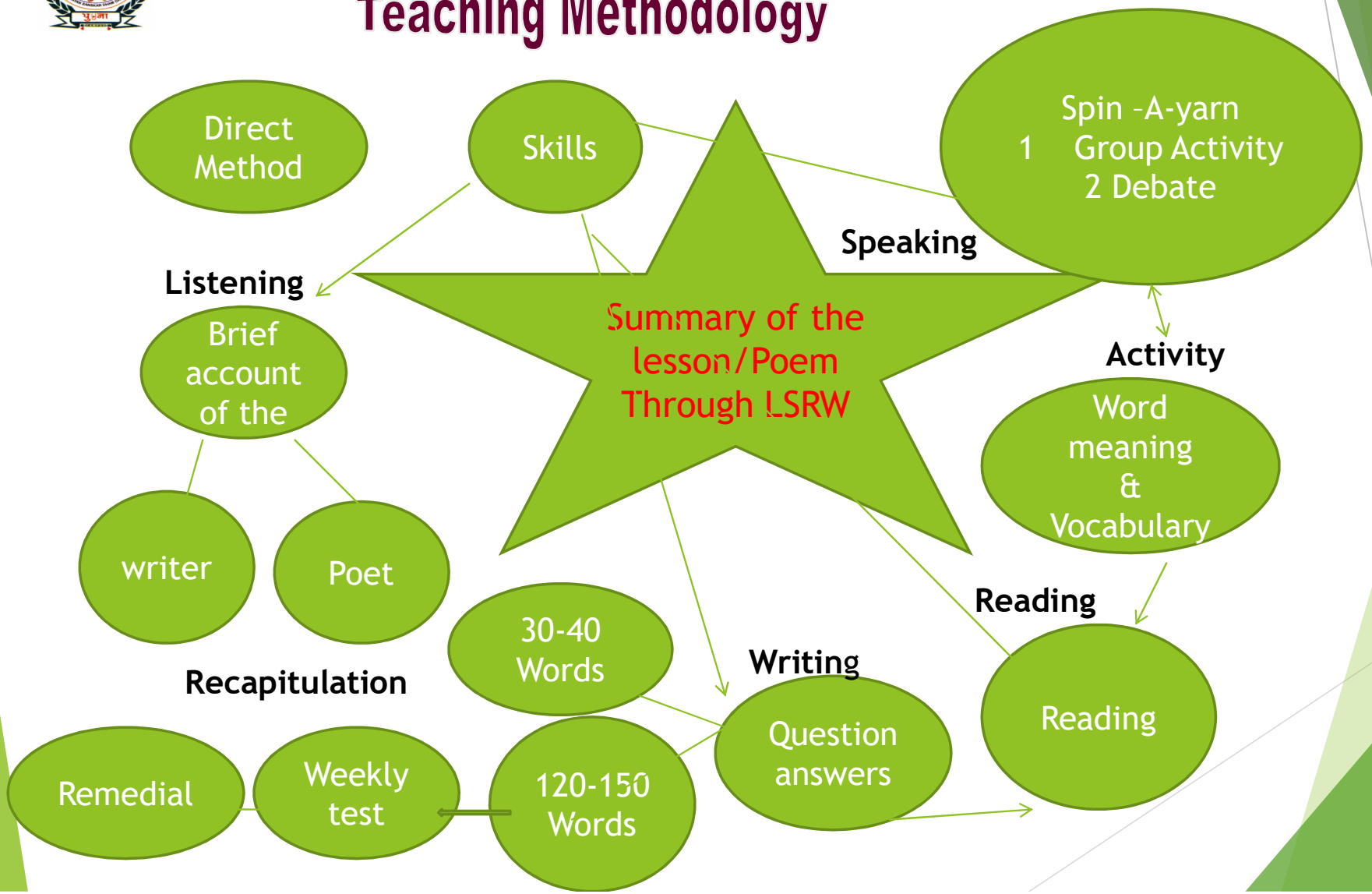
Supplementary Reader

Prose

Poetry

1) The Snake and The Mirror
2) My Childhood
3) The lake Isle Of Innisfree
4) A legend Of The Northland

Teaching Methodology



Teaching Aids

Flash Cards

Flow chart

The Happy Prince

A statue
Happy Prince

Swallow stayed

Tears falling

Misery unfolded

Wish
creature

Ruby , Sapphire

Desire to go to Egyp

Departs Swallow
Heart cracked

End
in1955

Secret bomb
destruction

Sight words

Pronunciation & Sentences

Playwright Furnace
Steeple Plucked
Garret Proclamation

Youtube Video http://www youtube.com Happy prince by Oscar Wilde youtube video

PAPER STYLE

A	Section	Reading skills	20 Marks
B	Section	Writing with grammar	30 Marks
C	Section	Literature TB & Extended Reading	30 Marks

Section A Reading **20 Marks**

Q1 : A factual passage 300-350 words 8 Marks

Q2 :A discursive passage 350-400 words with 4 short answer type to test vocabulary. 12 marks

Section B Writing and Grammar **30 marks**

Q3 : Writig an article/ descriptive paragraph(person place event /diary entry) in about 100-150 words 8 Marks

Q4: Writing a short story based on given outline 10 Marks

Q5 : Gap filling with one or two words to test preposition, articles, conjunctions and tenses 4 Marls

Q6 : Editing / Omission 4 Marks

Q7 : Sentence reordering / sentence transformation in context 4 marks

Paper style

Section C **30 Marks**

Q8 : One out of two extract from prose/ poetry/ play . Four very short answer qs **4 Marks**

Q9: Five short answer type qs. From Beehive and Moments (3 from Beehive 2 from moments) 30-40 words. **10 Marks**

Q 10: One out of 2 long answer type qs from Beehive to assess creativity , imagination beyond the text book (100 – 150 words) **8 Marks**

Q11: One out of two long answer qs . From Moments on theme or plot interpretation beyond the text or character sketch **8 Marks**

Mathematics Chapter 1

Linear Equations and Graphs

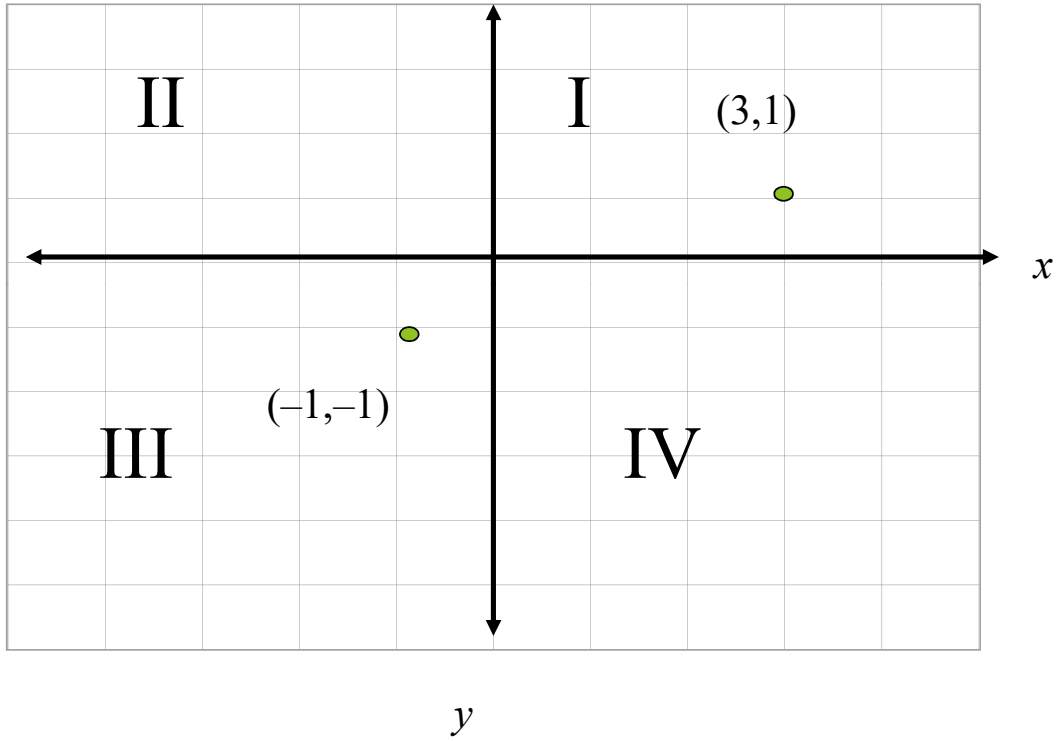
Section 2
Graphs and Lines

The Cartesian Coordinate System

- The Cartesian coordinate system was named after René Descartes. It consists of two real number lines, the **horizontal axis (*x*-axis)** and the **vertical axis (*y*-axis)** which meet in a right angle at a point called the **origin**. The two number lines divide the plane into four areas called **quadrants**.

- The quadrants are numbered using Roman numerals as shown on the next slide. Each point in the plane corresponds to one and only one **ordered pair** of numbers (*x*,*y*). Two ordered pairs are shown.

The Cartesian Coordinate System (continued)



Two points, (–1,–1) and (3,1), are plotted. Four quadrants are as labelled.

Linear Equations in Two Variables

- A linear equation in two variables is an equation that can be written in the standard form $Ax + By = C$, where A, B, and C are constants (A and B not both 0), and x and y are variables.
- A solution of an equation in two variables is an ordered pair of real numbers that satisfy the equation. For example, (4,3) is a solution of $3x - 2y = 6$.
- The solution set of an equation in two variables is the set of all solutions of the equation.
- The graph of an equation is the graph of its solution set.

Linear Equations in Two Variables (continued)

- If *A* is not equal to zero and *B* is not equal to zero, then *Ax* + *By* = *C* can be written as

  This is known as slope-intercept form.

$$y = -\frac{A}{B}x + \frac{C}{B} = mx + b$$

- If *A* = 0 and *B* is not equal to zero, then the graph is a horizontal line

$$y = \frac{C}{B}$$

- If *A* is not equal to zero and *B* = 0, then the graph is a vertical line

$$x = \frac{C}{A}$$

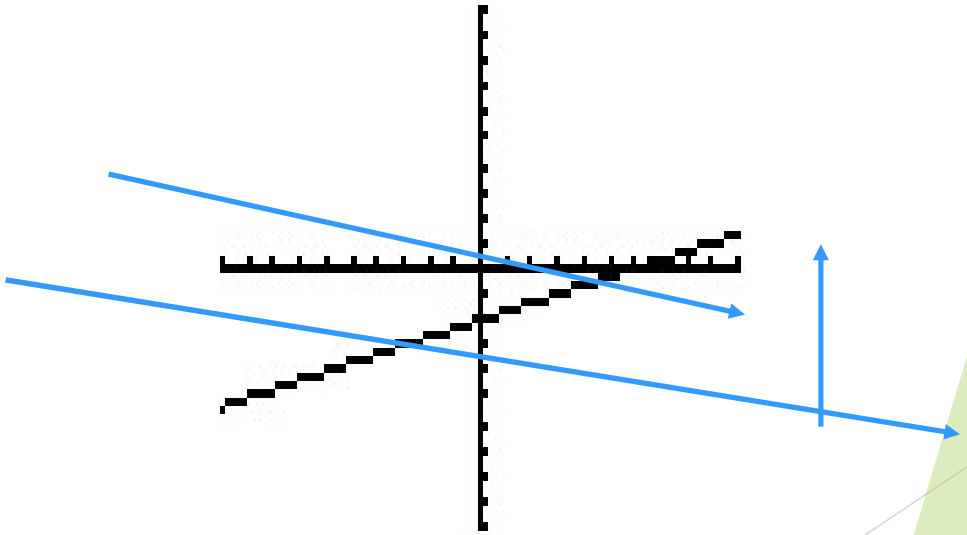
Using Intercepts to Graph a Line

Graph $2x - 6y = 12$.

Using Intercepts to Graph a Line

Graph $2x - 6y = 12$.

x	y	
0	–2	y-intercept
6	0	x-intercept
3	–1	check point



Using a Graphing Calculator

Graph $2x - 6y = 12$ on a graphing calculator and find the intercepts.

Using a Graphing Calculator

Graph $2x - 6y = 12$ on a graphing calculator and find the intercepts.

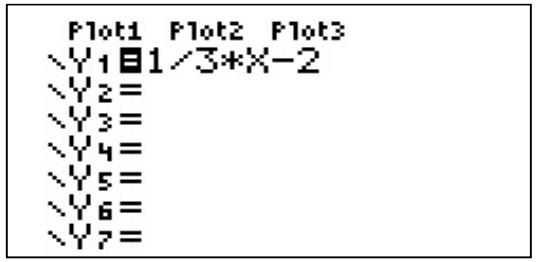
Solution: First, we solve the equation for y.

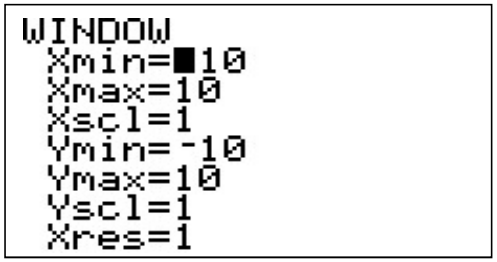
$2x - 6y = 12$ Subtract $2x$ from each side.

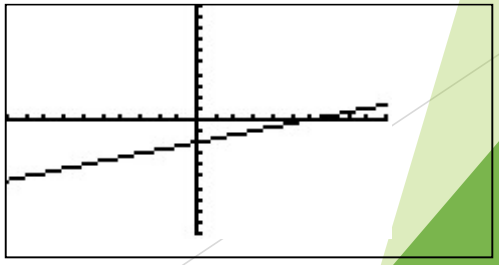
$-6y = -2x + 12$ Divide both sides by -6

$y = (1/3)x - 2$

Now we enter the right side of this equation in a calculator, enter values for the window variables, and graph the line.



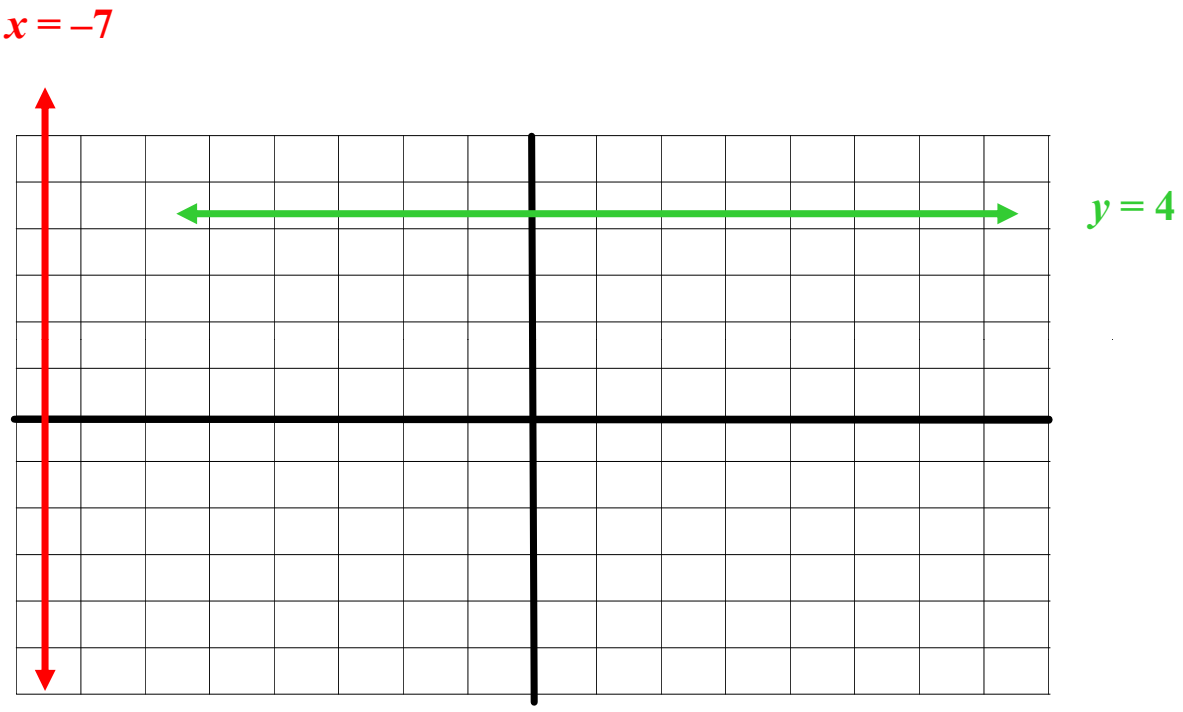




Special Cases

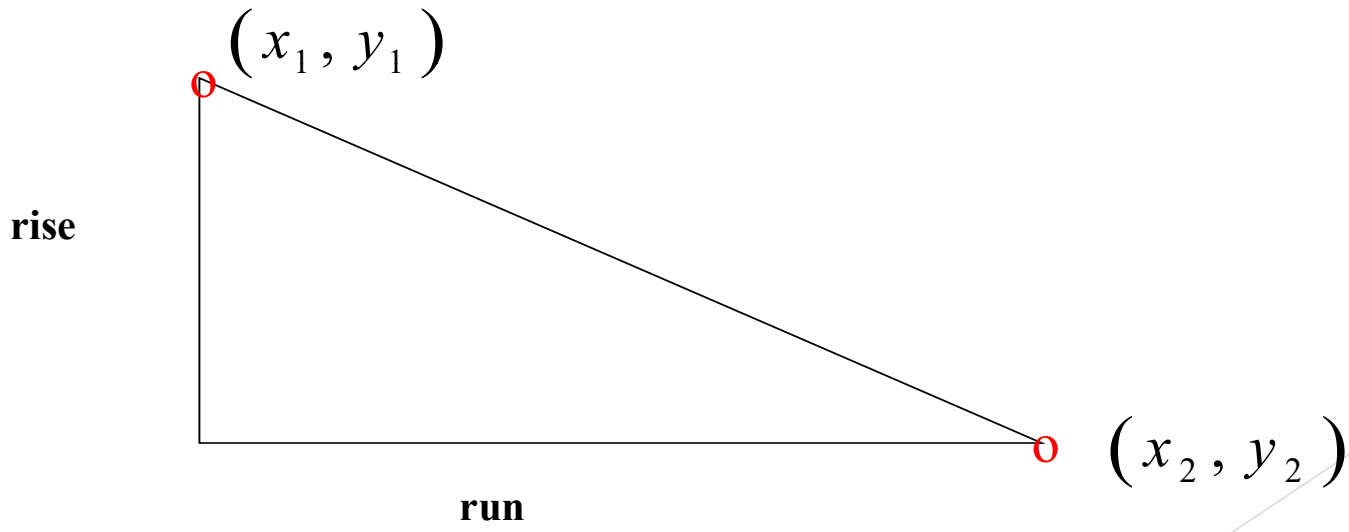
- The graph of $x = k$ is the graph of a vertical line k units from the y-axis.
- The graph of $y = k$ is the graph of the horizontal line k units from the x-axis.
- Examples:
  1. Graph $x = -7$
  2. Graph $y = 3$

Solutions



Slope of a Line

- Slope of a line: $$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{rise}{run}$$



Slope-Intercept Form

The equation

$$y = mx+b$$

is called the slope-intercept form of an equation of a line.

The letter *m* represents the slope and *b* represents the *y*-intercept.

Find the Slope and Intercept from the Equation of a Line

Example:

Find the slope and y intercept of the line whose equation is

$$5x - 2y = 10.$$

Find the Slope and Intercept from the Equation of a Line

Example: Find the slope and y intercept of the line whose equation is $5x - 2y = 10$.

Solution: Solve the equation for y in terms of x. Identify the coefficient of x as the slope and the y intercept as the constant term.

$$5x - 2y = 10$$

$$-2y = -5x + 10$$

$$y = \frac{-5x}{-2} + \frac{10}{-2} = \frac{5}{2}x - 5$$

Therefore: the slope is 5/2 and the y intercept is –5.

Point-Slope Form

The point-slope form of the equation of a line is

$$y - y_1 = m(x - x_1)$$

where m is the slope and (x_1, y_1) is a given point.

It is derived from the definition of the slope of a line:

$$\frac{y_2 - y_1}{x_2 - x_1} = m$$

Cross-multiply and substitute the more general x for x_2

Example

Find the equation of the line through the points (–5, 7) and (4, 16).

Solution:

$$m = \frac{16 - 7}{4 - (-5)} = \frac{9}{9} = 1$$

Now use the point-slope form with $m = 1$ and $(x_1, x_2) = (4, 16)$.

(We could just as well have used (–5, 7)).

$$y - 16 = 1(x - 4)$$

$$y = x - 4 + 16 = x + 12$$

Application

Office equipment was purchased for $20,000 and will have a scrap value of $2,000 after 10 years. If its value is depreciated linearly, find the linear equation that relates value (V) in dollars to time (t) in years:

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Solution: When $t = 0$, $V = 20{,}000$ and when $t = 10$, $V = 2{,}000$. Thus, we have two ordered pairs (0, 20,000) and (10, 2000). We find the slope of the line using the slope formula.
The y intercept is already known (when $t = 0$, $V = 20{,}000$, so the y intercept is 20,000).
The slope is $(2000 - 20{,}000)/(10 - 0) = -1{,}800$.

Therefore, our equation is $V(t) = -1{,}800t + 20{,}000$.

Supply and Demand

- In a free competitive market, the price of a product is determined by the relationship between supply and demand. The price tends to stabilize at the point of intersection of the demand and supply equations.
- This point of intersection is called the equilibrium point.
- The corresponding price is called the equilibrium price.
- The common value of supply and demand is called the equilibrium quantity.

Supply and Demand Example

Use the barley market data in the following table to find: (a) A linear supply equation of the form $p = mx + b$ (b) A linear demand equation of the form $p = mx + b$
(c) The equilibrium point.

Year	Supply Mil bu	Demand Mil bu	Price $/bu
2002	340	270	2.22
2003	370	250	2.72

Supply and Demand
Example (continued)

(a) To find a supply equation in the form $p = mx + b$, we must first find two points of the form (x, p) on the supply line. From the table, (340, 2.22) and (370, 2.72) are two such points. The slope of the line is

$$m = \frac{2.72 - 2.22}{370 - 340} = \frac{0.5}{30} = 0.0167$$

Now use the point-slope form to find the equation of the line:

$p - p_1 = m(x - x_1)$
$p - 2.22 = 0.0167(x - 340)$
$p - 2.22 = 0.0167x - 5.678$
$p = 0.0167x - 3.458$ **Price-supply equation.**

Supply and Demand
Example (continued)

(b) From the table, (270, 2.22) and (250, 2.72) are two points on the demand equation. The slope is

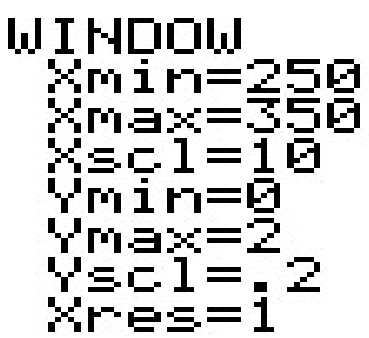
$$m = \frac{2.72 - 2.22}{250 - 270} = \frac{.5}{-20} = -0.025$$

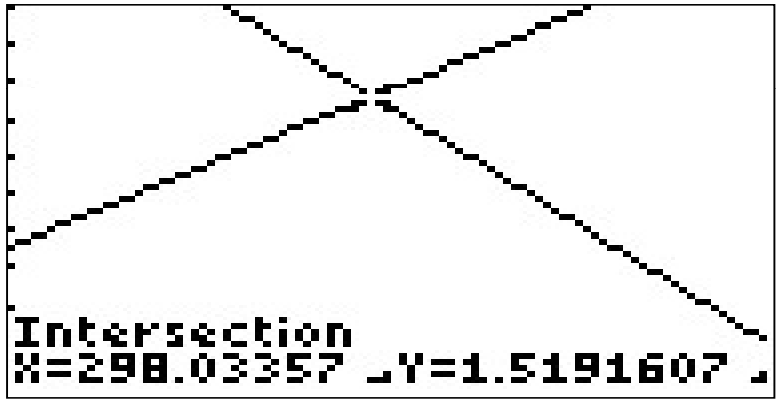
$p - p_1 = m(x - x_1)$
$p - 2.22 = -0.025(x - 270)$
$p - 2.22 = -0.025x + 6.75$
$p = -0.025x + 8.97$

Price-demand equation

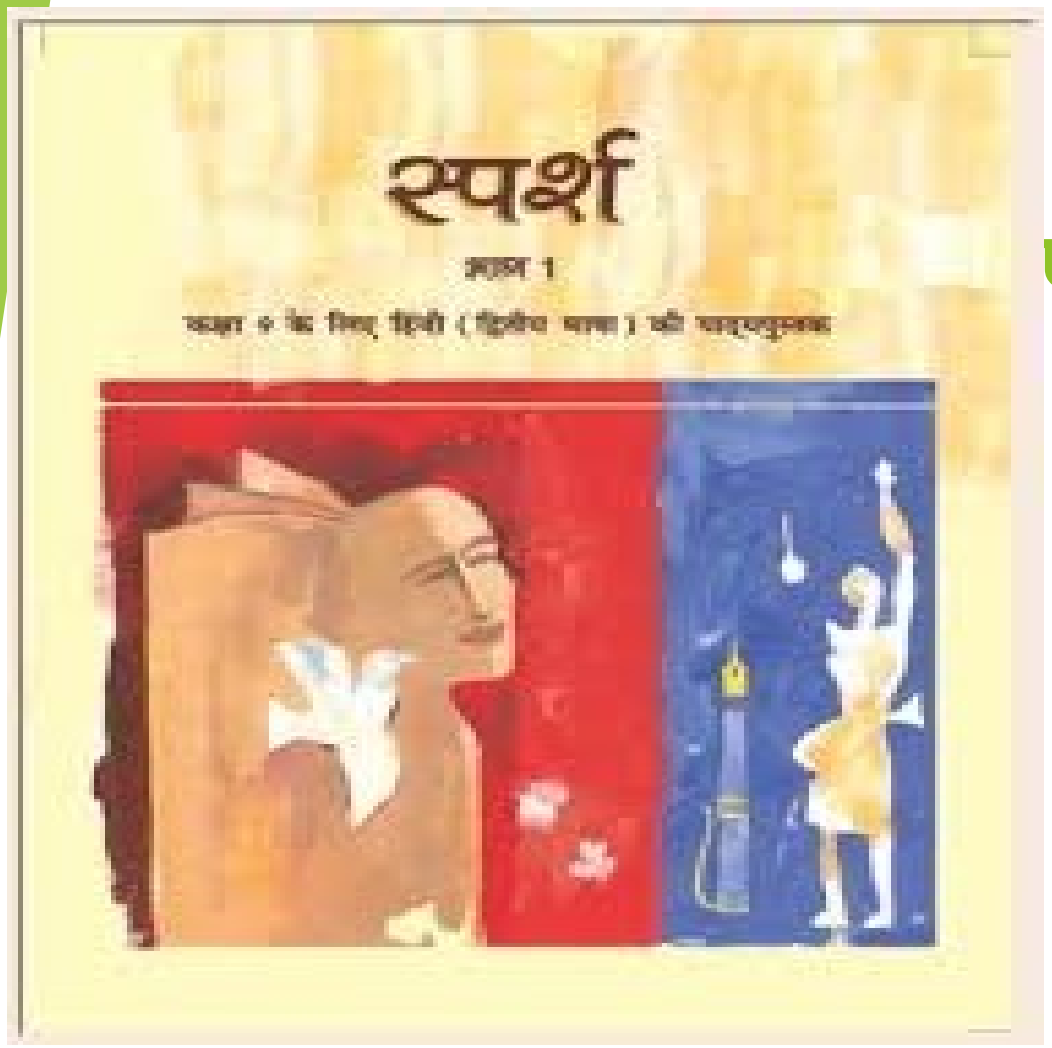
Supply and Demand Example (continued)

(c) If we graph the two equations on a graphing calculator, set the window as shown, then use the intersect operation, we obtain:





The equilibrium point is approximately (298, 1.52). This means that the common value of supply and demand is 298 million bushels when the price is $1.52.



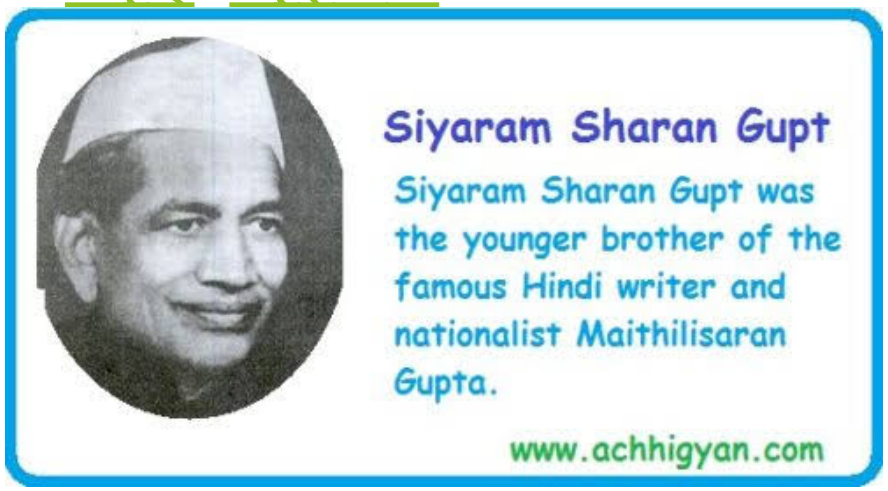
पर्श भाग -1
विषय-हिंदी
कक्षा -9

एक फूल की चाह

सियारामशरण गुप्त

Aim - समाज में व्याप्त छुआछूत की समस्या से अवगत करवाना |

objective- विद्यार्थियों के मन से इस तरह की भावनाओं को समाप्त करना |



- सियाराम गुप्त का जन्म १८९५ ई. में झाँसी के निकट चिरगाँव में हुआ था | इनके बड़े भाई राष्ट्रकवि मैथिलीशरण गुप्त थे एवं इनके पिता भी कविताएँ लिखते थे |
- ये महात्मा गाँधी एवं विनोबा भावे के विचारों के अनुयायी थे |
- कविता के माध्यम से इन्होनें सामाजिक कुरीतियों पर करारी चोट की है |
- अपने काव्य में देश की ज्वलंत घटनाओं एवं समस्याओं का जीवंत चित्रण प्रस्तुत किया है |

पाठ की रूप रेखा -

- 'एक फूल की चाह' छूआछूत की समस्या से संबंधित कविता है।महामारी के दौरान एक अछूत बालिका उसकी चपेटमें आ जाती है।वह अपने जीवन की अंतिम साँसे ले रही है। वह अपने पिता से कहती है कि वे उसे देवी के प्रसाद का एक फूल लाकर दें।पिता असमंजस में है कि वह मंदिर में कैसे जाए। मंदिर के पूजारी उसे अछूत समझते है और मंदिर में प्रवेश करने के योग्य नहीं समझते। फिर भी बच्ची का पिता अपनी बच्ची की अंतिम इच्छा पूरी करने के लिए मंदिर में जाता है। वह दीप और पुष्प अर्पित करता है तथा फूल लेकर लौटने लगता है।

लेखन विधि -

- काव्यांशों की विस्तृत व्याख्या -
  - शब्दार्थ
  - सन्दर्भ
  - व्याख्या
  - निष्कर्ष
- लघु उत्तरीय प्रश्नोत्तर
- निबंधात्मक प्रश्नोत्तर

पुनरावर्तन

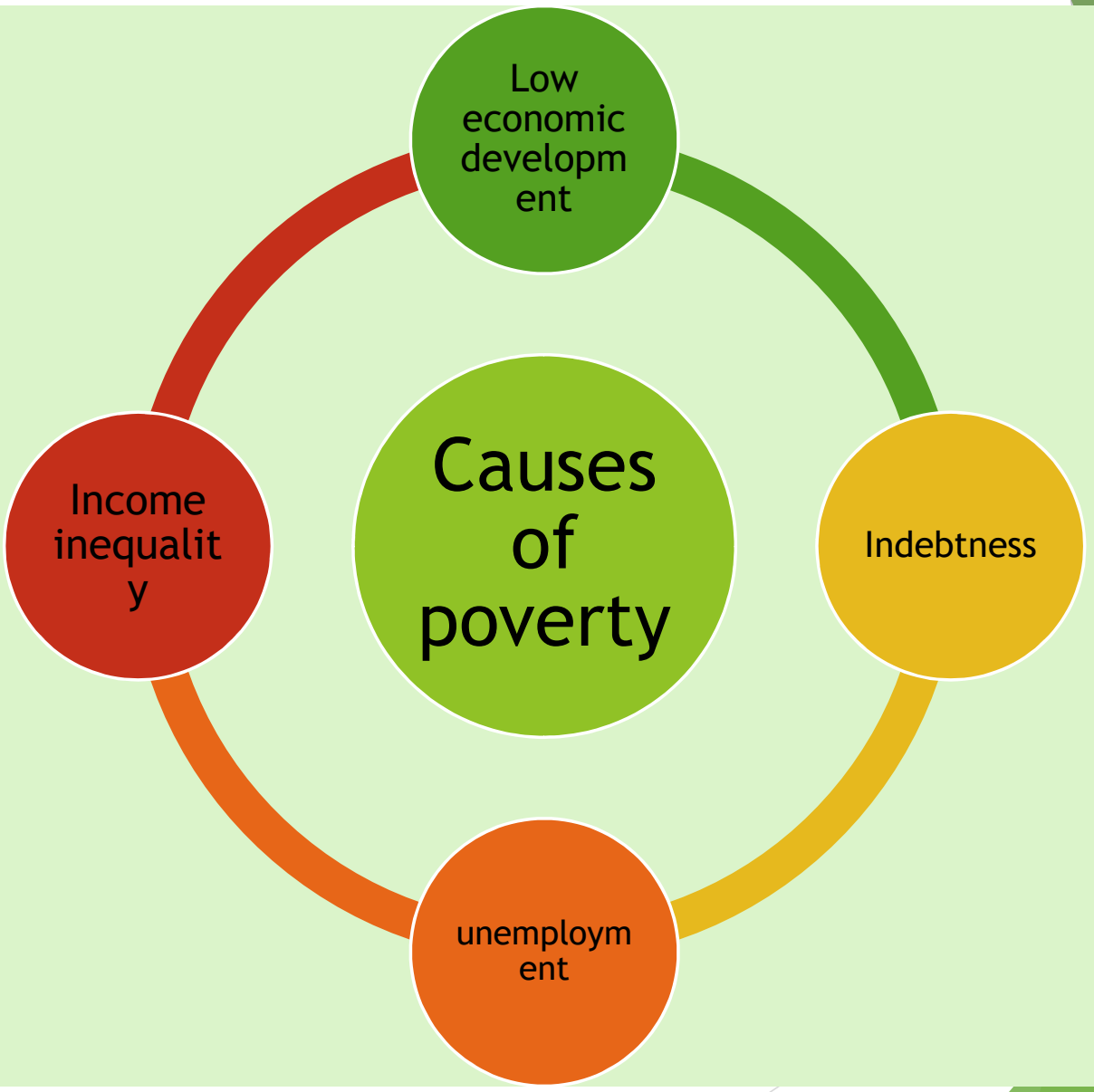
- व्याख्याओं का मौखिक अभ्यास
- प्रश्नोत्तर का मौखिक अभ्यास
- श्रुतिलेख
- साप्ताहिक टेस्ट

ECONOMICS

CASES OF POVERTY

- Landlessness
- Unemployment
- Size of families
- Illiteracy
- Malnutrition
- Child labour
- Helplessness

I don’t have enough money. How will I feed my children.

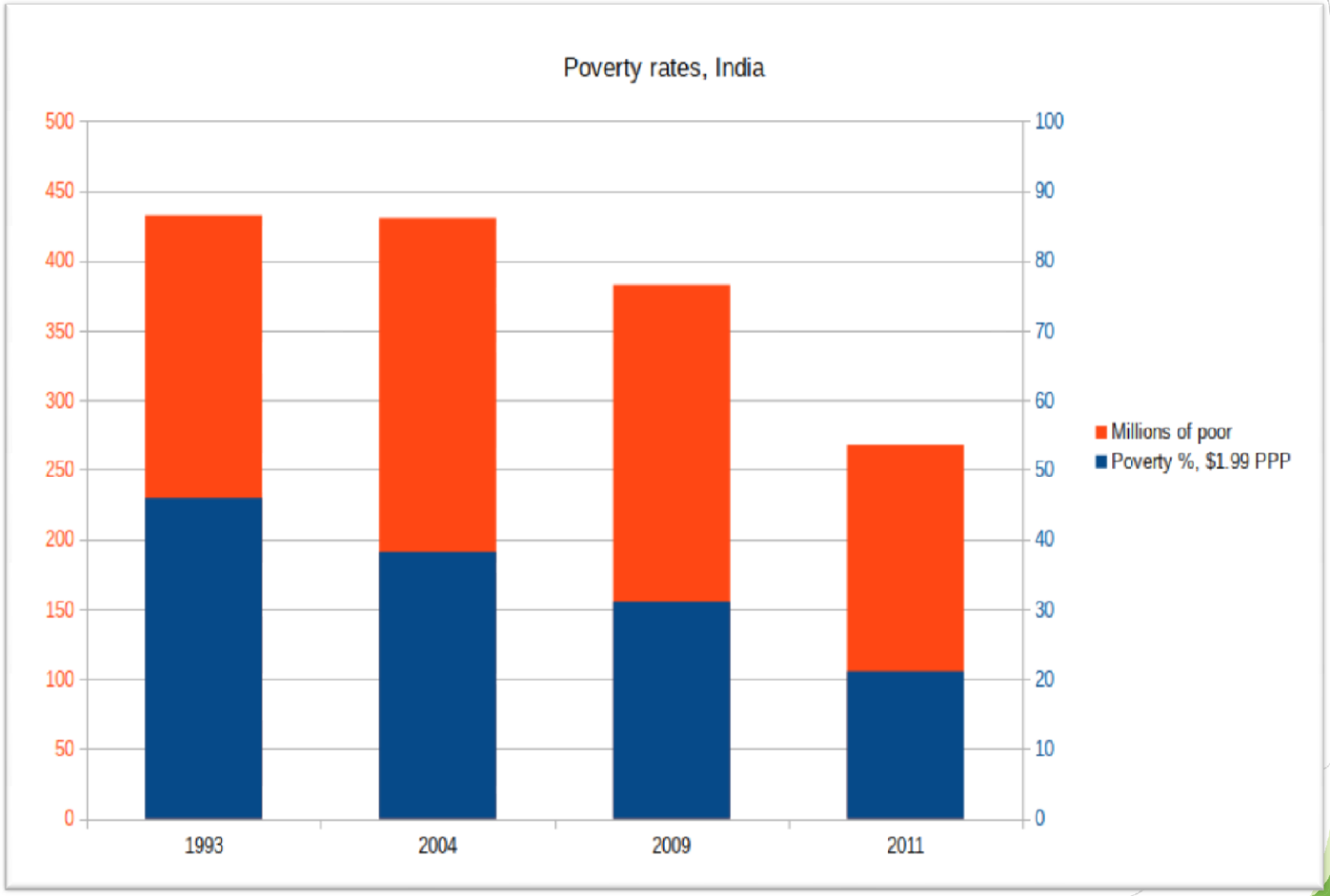

Low economic development
Income inequality
Causes of poverty
Indebtness
unemployment

ANTI-POVERTY MEASURES

- Promotion of economic growth

Targeted anti-poverty programmes

- Reduce unemployment


Poverty rates, India
500
450
400
350
300
250
200
150
100
50
0
100
90
80
70
60
50
40
30
20
10
0
1993
2004
2009
2011
Millions of poor
Poverty %, $1.99 PPP

RMEMBERING

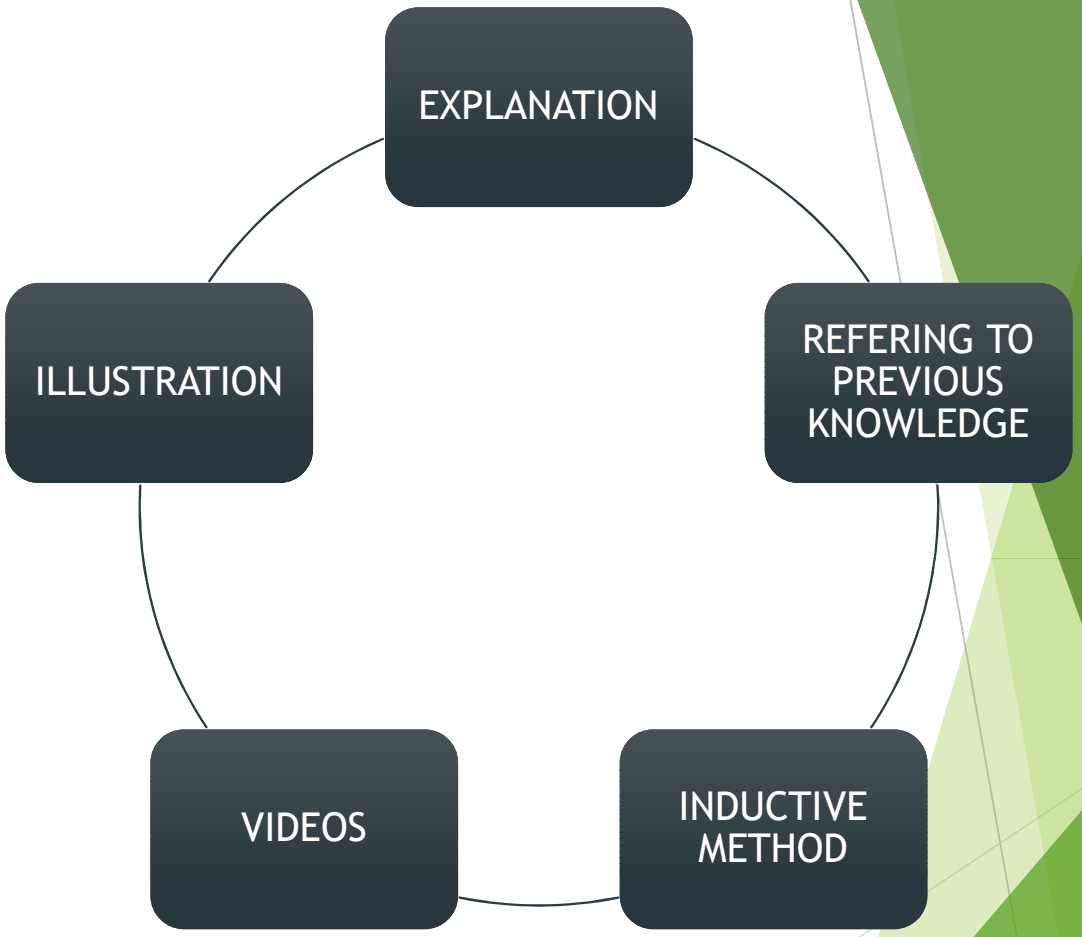
Comprehension to be familiar with meaning and to understand conceptually, interpret, compare, explain , paraphrase or interpret information.

MEASURES FOR SLOW LEARNERS

Appraise , judge and justify the value or worth of a child's understanding and grasping power and predict outcomes whenever possible.


Price rise
AAM ADMI
Corruption
Low
MANOHAR PUROHIT

TEACHING METHODS



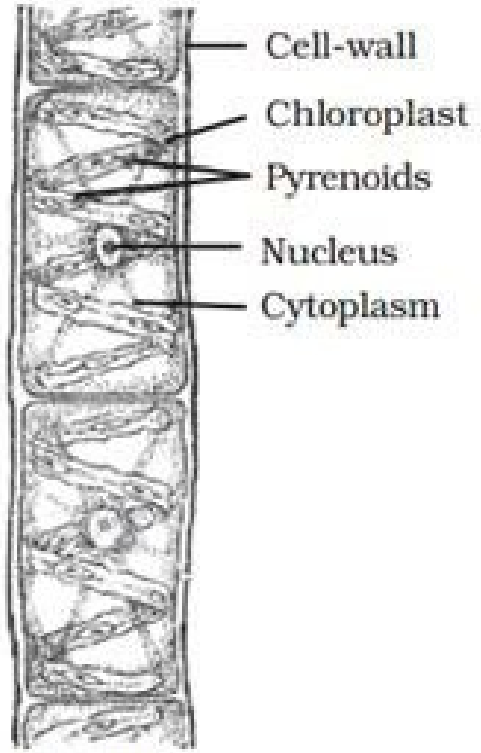
EXCERCISE

1. What do you understand by human poverty?
2. Who are the poorest of poor?
3. What are the main features of National Rural Employment Act?
4. Describe global poverty trends.
5. State current government strategy of poverty eradication.

REVIEW SCIENCE 9 : AUGUST COURSE

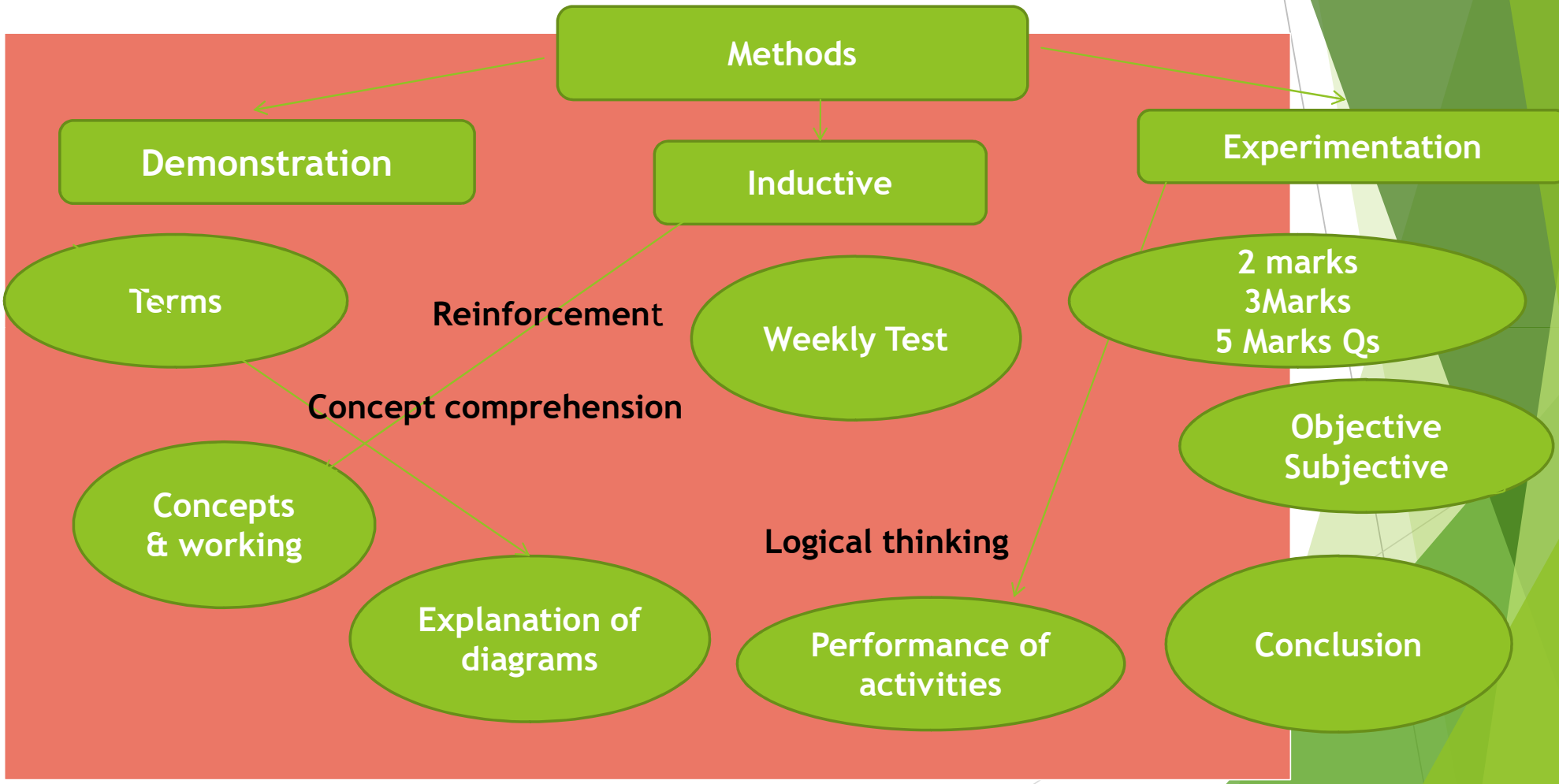
Chapter 7 **Biological Diversity**

- Diversity of Plants
- Diversity of Plants
- Issues in Scientific naming
- Basis of Classsification
- Major Groups of Plants



Spirogyra

TEACHING METHODOLOGY



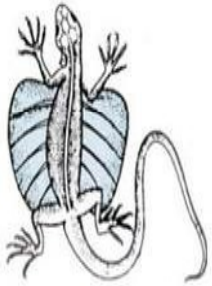
Teaching Aids

Diagrams

Flash cards

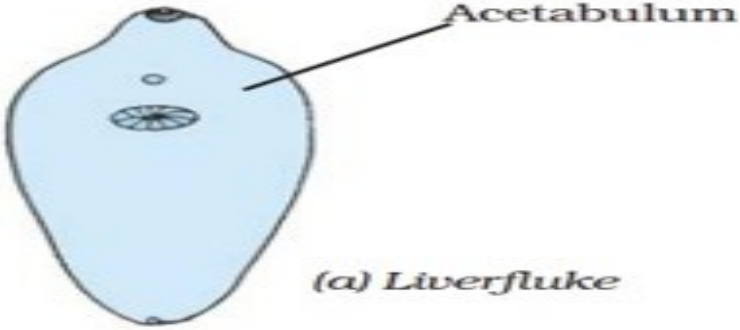
Pinus

Cycas



Flying lizard (Draco)

Pigeon



(a) Liverfluke

(b) Butterfly

(c) Asterias (star fish)

Teaching Aids

- Demonstration of Experiments.
- Preparation of stained Temporary mounts of
- (a) Onion peel (b) Human Cheek cells
- To record observations and draw their labelled diagrams

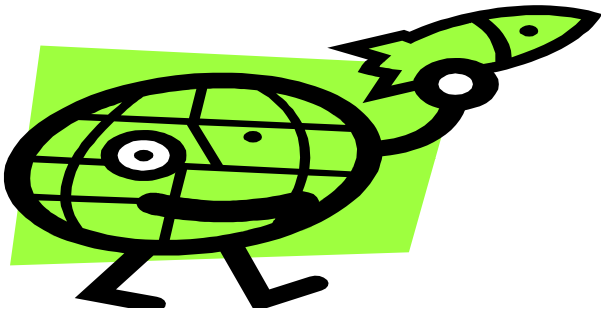
Continued Teaching aids

- Youtube videos
- https://www.youtube.com/watch?v=GK_vRtHJZu4
- https://www.youtube.com/watch?v=ARPQ8zzzE_M
- https://www.youtube.com/watch?v=tXSH3RMjGg4

Science Paper style

- The question paper comprises of five sections
  A,B,C,D and E
- All question are compulsory
- Internal choice is given in Sections B, C,D and E
- Sec.A Q no 1 and 2 in this section are 1 mark each.
- Q. No 3-5 in Section B are 2 marks each to be answered in 30 words
- Q. No 6-15 in section C are 3 marks each. They are to be answered in 50 words.
- Q. No 16- 21 in Section D are 5 marks each .they are to be answered in 70 words
- Q. No 22-27 in Section E are based on practical skills . Each questions is of 2 marks each

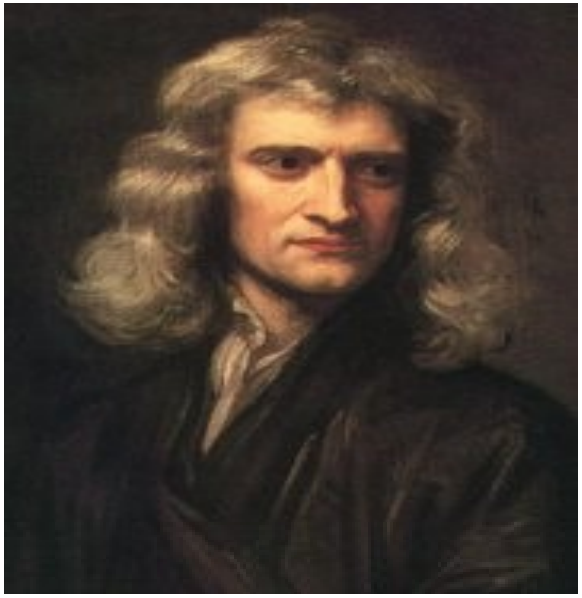
Newton's Laws of Motion



Review

Background

Sir Isaac Newton (1643-1727) an English scientist and mathematician famous for his discovery of the law of gravity also discovered the three *laws of motion*. He published them in his book Philosophiae Naturalis Principia Mathematica (mathematic principles of natural philosophy) in 1687. Today these laws are known as *Newton's Laws of Motion* and describe the motion of all objects on the scale we experience in our everyday lives.



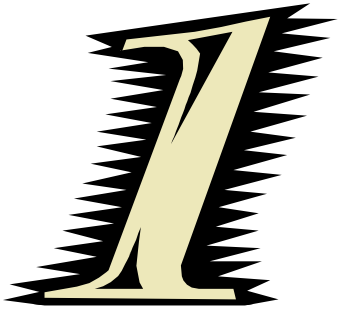
"If I have ever made any valuable discoveries, it has been owing more to patient attention, than to any other talent."

-Sir Isaac Newton

Newton's Laws of Motion

1. An object in motion tends to stay in motion and an object at rest tends to stay at rest unless acted upon by an unbalanced force.
2. Force equals mass times acceleration (F = ma).
3. For every action there is an equal and opposite reaction.

Newton's First Law



An object at rest tends to stay at rest and an object in motion tends to stay in motion unless acted upon by an unbalanced force.

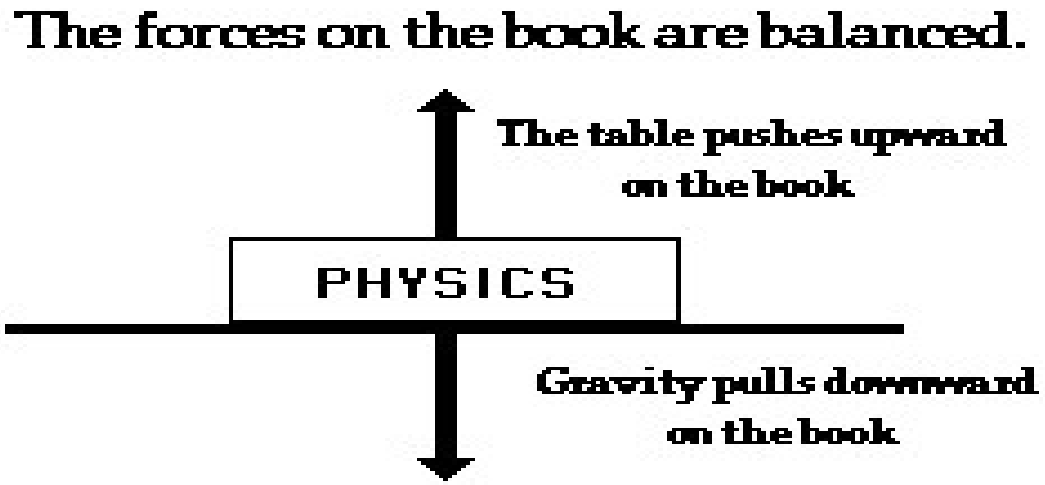
What does this mean?

Basically, an object will “keep doing what it was doing” unless acted on by an unbalanced force.

If the object was sitting still, it will *remain stationary*. If it was moving at a constant velocity, it will *keep moving*.

It takes *force* to change the motion of an object.

What is meant by *unbalanced force?*



If the forces on an object are equal and opposite, they are said to be balanced, and the object experiences no change in motion. If they are not equal and opposite, then the forces are unbalanced and the motion of the object changes.

Some Examples from Real Life

A soccer ball is sitting at rest. It takes an unbalanced force of a kick to change its motion.

Two teams are playing tug of war. They are both exerting equal force on the rope in opposite directions. This balanced force results in no change of motion.

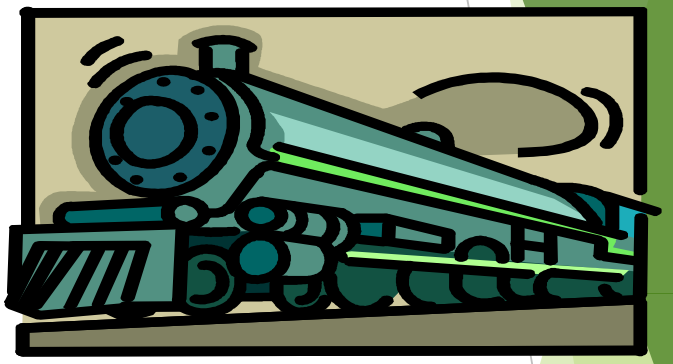
Newton's First Law is also called the *Law of Inertia*

Inertia: the tendency of an object to resist changes in its state of motion

The First Law states that *all objects have inertia.* The more mass an object has, the more inertia it has (and the harder it is to change its motion).

More Examples from Real Life

A powerful locomotive begins to pull a long line of boxcars that were sitting at rest. Since the boxcars are so massive, they have a great deal of inertia and it takes a large force to change their motion. Once they are moving, it takes a large force to stop them.



On your way to school, a bug flies into your windshield. Since the bug is so small, it has very little inertia and exerts a very small force on your car (so small that you don't even feel it).

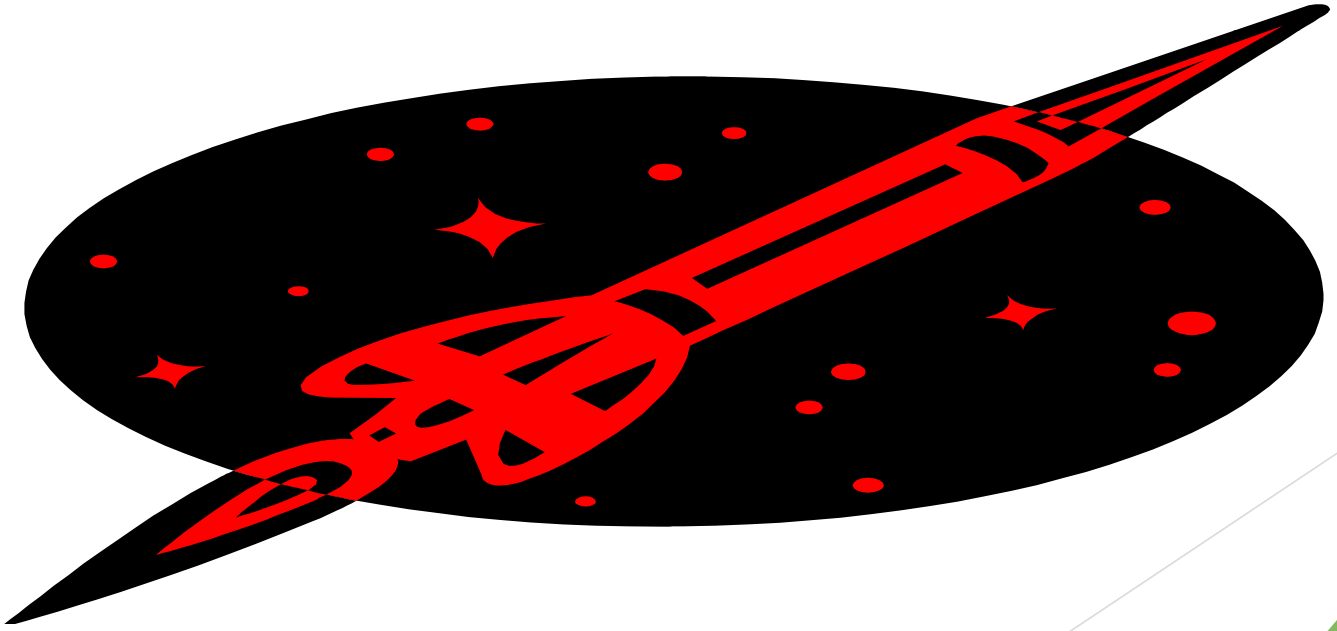
If objects in motion tend to stay in motion, why don't moving objects keep moving forever?

Things don't keep moving forever because there's almost always an unbalanced force acting upon it.

A book sliding across a table slows down and stops because of the force of *friction*.

If you throw a ball upwards it will eventually slow down and fall because of the force of *gravity*.

In outer space, away from gravity and any sources of friction, a rocket ship launched with a certain speed and direction would *keep going in that same direction and at that same speed forever.*



Newton's Second Law

Force equals mass times acceleration.

$$F = ma$$

<u>Acceleration</u>: a measurement of how quickly an object is changing speed.

What does F = ma mean?

Force is *directly proportional* to mass and acceleration.
Imagine a ball of a certain mass moving at a certain acceleration. This ball has a certain force.

Now imagine we make the ball twice as big (double the mass) but keep the acceleration constant. F = ma says that this new ball has *twice the force* of the old ball.

Now imagine the original ball moving at twice the original acceleration. F = ma says that the ball will again have *twice the force* of the ball at the original acceleration.

More about F = ma

If you *double* the mass, you *double* the force. If you *double* the acceleration, you *double* the force.

What if you double the mass *and* the acceleration?

(2m)(2a) = 4F

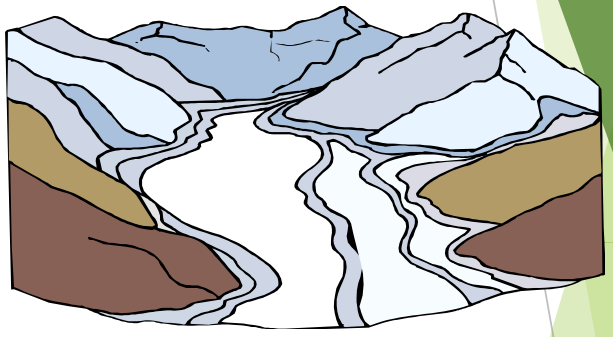
Doubling the mass *and* the acceleration *quadruples* the force.

So . . . what if you *decrease the mass by half*? How much force would the object have now?

What does F = ma say?

F = ma basically means that the force of an object comes from its mass and its acceleration.

Something very massive (high mass) that's changing speed very slowly (low acceleration), like a glacier, can still have great force.



Something very small (low mass) that's changing speed very quickly (high acceleration), like a bullet, can still have a great force. Something very small changing speed very slowly will have a very weak force.

Newton's Third Law

For every action there is an equal and opposite reaction.

What does this mean?

For every force acting on an object, there is an equal force acting in the opposite direction. Right now, gravity is pulling you *down* in your seat, but Newton's Third Law says your seat is pushing *up* against you with *equal force*. This is why you are not moving. There is a *balanced force* acting on you– gravity pulling down, your seat pushing up.

Think about it . . .

What happens if you are standing on a skateboard or a slippery floor and push against a wall? You slide in the opposite direction (away from the wall), because you pushed on the wall but the wall pushed back on you with equal and opposite force.

Why does it hurt so much when you stub your toe? When your toe exerts a force on a rock, the rock exerts an equal force back on your toe. The harder you hit your toe against it, the more force the rock exerts back on your toe (and the more your toe hurts).

Review

Newton's First Law:

Objects in motion tend to stay in motion and objects at rest tend to stay at rest unless acted upon by an unbalanced force.

Newton's Second Law:

Force equals mass times acceleration (F = ma).

Newton's Third Law:

For every action there is an equal and opposite reaction.

Vocabulary

Inertia:

the tendency of an object to resist changes in its state of motion

Acceleration:

- a change in velocity
- a measurement of how quickly an object is changing speed, direction or both

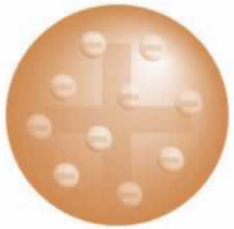
Velocity:

The rate of change of a position along a straight line with respect to time

Force:

strength or energy

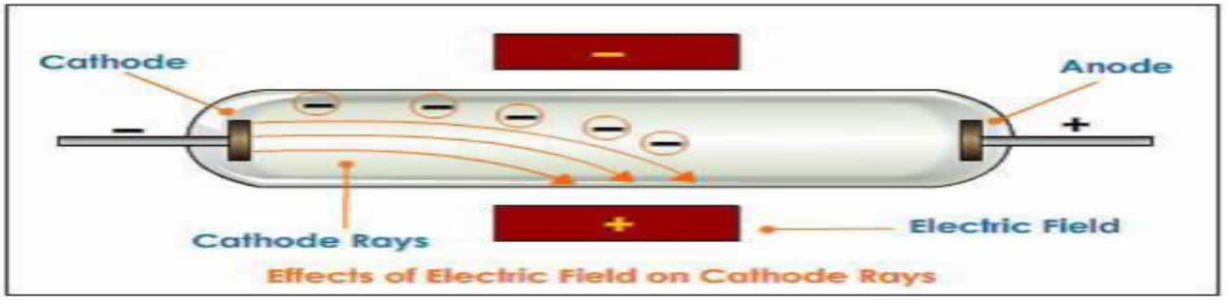
CHEMISTRY

SCIENTIST	PROPOSED ATOMIC MODEL
Joseph John Thomson British Physicist and Nobel laureate 	PLUM –PUDDING MODEL 

Thomson used cathode ray tubes to demonstrate that the cathode ray responds to both magnetic and electric fields.

Limitation: Model failed to explain how protons and electrons were arranged in atom so close to each other.

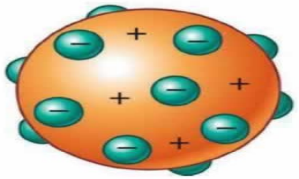
Eugene Goldstein:

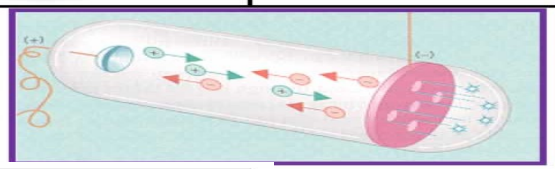


"canal rays" which had electrical and magnetic properties opposite of an electron

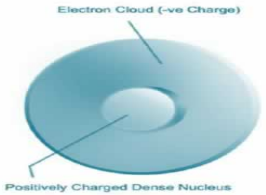
Protons:

The canal rays have positively charged sub-atomic, particles known as protons (p).

SCIENTIST	PROPOSED ATOMIC MODEL
Eugene Goldstein a German physicist 	

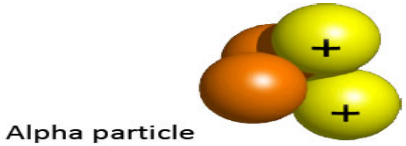


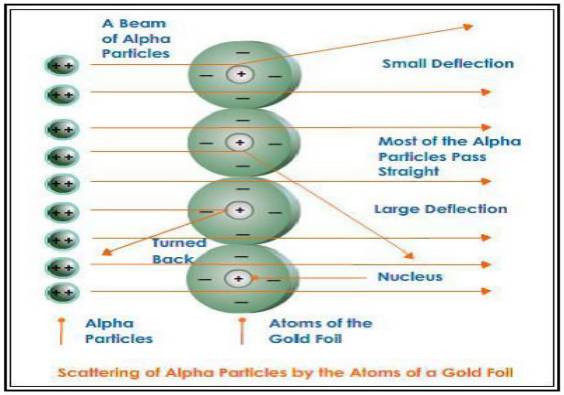
3. Rutherford's Scattering Experiments:

SCIENTIST	PROPOSED ATOMIC MODEL
Sir Earnest Rutherford  Nobel prize 1908	 Rutherford's Nuclear Model of the Atom

Experiment: Rutherford took a thin gold foil and made alpha particles , [He^{2+}] positively charged Helium fall on it.

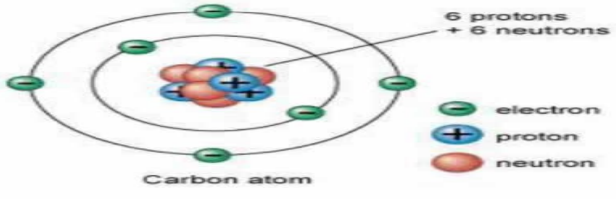
S.No	OBSERVATION	INFERENCE
1.	Most of the a-particles passed through the gold foil without getting deflected. Very few particles were deflected.	Most of the space inside the atom is empty.
2.	Very few particles were deflected.	Positive charge of the atom occupies very little space.
3.	A very few alpha particles, 1 in 100000 completely rebound on hitting the gold foil.	Nucleus of an atom is very small as compared to the total size.



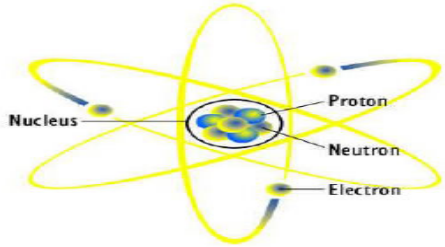


• Limitation: In Rutherford's atomic model , Nucleus & electrons are held together by electrostatic force of attraction which would lead to the fusion between them. This does not happen in the atom.

• In 1932, James Chadwick proved that the atomic nucleus contained a neutral particle which had been proposed more than a decade earlier by Ernest Rutherford officially discovered the neutron in 1932, Chadwick received the Nobel Prize in 1935.

SCIENTIST	PROPOSED ATOMIC MODEL
James Chadwick  English Physicist & Nobel laureate	

Niel Bohr Atomic Model:

SCIENTIST	PROPOSED ATOMIC MODEL
Danish physicist 	

Electronic configuration & Valency:
Bohr and Bury Scheme - Important Rules

S.No	Electron Shell	$2n_2$ where n = shell number	Maximum Capacity
1	K Shell	2 x (1) 2	2 electrons
2	L Shell	2 x (2) 2	8 electrons
3	M shell	2 x (3) 2	18 electrons
4	N shell	2 x (4) 2	32 electrons

The outermost shell of an atom cannot accommodate more than 8 electrons, even if it has a capacity to accommodate more electrons. This is a very important rule and is also called the OCTET RULE. The presence45 of 8 electrons in the outermost shell makes the atom very stable.

I HOPE YOU HAVE GAINED KNOWLEDGE BY VIEWING IT. THANK YOU.