

# *Interrelation and interdependence amongst various school subjects*

Course-V (1.1.5), Unit-1

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# *Interrelation and Interdependence*

- 1. Correlation**
- 2. Integration**
- 3. transfer**



# Integration of subjects

Science group

Social science group

Language group



# Interrelation and interdependence of subjects

**Mathematics and other subjects:- (physical science, life science, history, geography)**

**Relationship with History and other subjects**

**Relationship with physical Science and other Subjects**

**Relationship with Geography and other subjects**

## MATHEMATICS WITH OTHER SUBJECTS

- **Mathematics Is Science Of All Sciences And Arts Of All Arts.**

### MATHS AND SCIENCE

- The math teacher can teach students about exponential notation. Once students become proficient in reading and writing numbers in exponential form, and in converting numbers between exponential form, factor form, and standard form, they can apply this knowledge to topics in science. For example, they can write the distance between the sun and each planet using scientific notation.
- **Exponential Form  $2^2$  Standard Form  $2 \times 2$  AND Factor Form  $4$**

- **SCIENTIFIC NOTATION**

1.230000000000

$1.23 \times 10^{11}$

- In the number 123,000,000,000 The coefficient will be 1.23
- To find the exponent count the number of places from the decimal to the end of the number.

# MATHEMATICS AND PHYSICS

- PHYSICS
- **Mathematics gives final shape to the rules of physics, it presents them in workable form. Mathematical calculations occur at every step in physics.**
- CHARLES' LAW OF EXPANSION OF GASES IS BASES UPON MATHMATICAL CALCULATIONS
- Numerical problems on
- LAWS OF MOTION
- LIQUID PRESSURE
- FRICTION



# MATHEMATICS AND CHEMISTRY

- **For estimation of element in organic compounds the use of percentage and ratio has to be made.**
- **Molecular weights of organic compounds are calculated mathematically .**
- **BALANCING EQUATIONS**



# MATHEMATICS AND BIOLOGY

- **First paper that Mendel wrote on his discovery of Mendelian laws was called "Mathematics of Peas"**
- **RATE OF RESPIRATION, TRANSPIRATION**
- **NORMAL WEIGHT CALCULATION**
- **CALORIC AND NUTRITIVE VALUE OF FOOD IS CALCULATED USING MATHS**
- **THE GROWTH IN WEIGHT OF INFANTS UP TO NINE MONTHS**





# MATHEMATICS AND GEOGRAPHY

- FROM THE GLOBE TO THE MAP
- Distances on the Earth and distances on maps: what the scale is, why and how one has to preserve the proportion.
- 2. Various methods of mapping the Earth: what happens to the distances? Mapping to globe versus mappings to plane maps.
- FORMATION OF DAYS AND NIGHTS
- LUNAR AND SOLAR ECLIPSE
- LATITUDE LONGITUDE
- HEIGHT ABOVE SEA LEVEL
- CALCULATION OF INTERNATIONAL, LOCAL , STANDARD TIME
- MAXIMUM AND MINIMUM TEMPERATURE
- BAROMETRIC PRESSURE
- SURVEYING INSTRUMENTS IN MATHS HAVE TO BE MATHEMATICALLY ACCURATE.

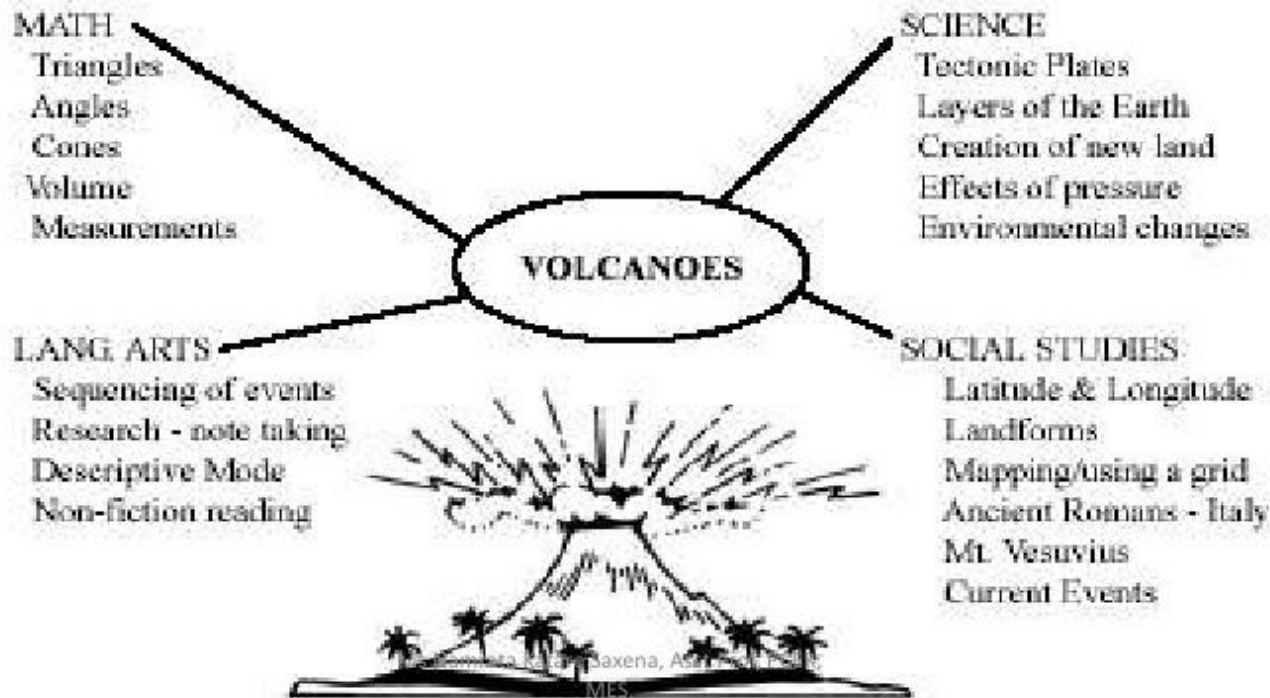


# LANGUAGE AND OTHER SUBJECTS

- WITH HISTORY
- ESSAY WRITING CAN BE PLANNED ON HISTORICAL THEMES TO MAKE THEM MORE MEANINGFUL, BY ASSOCIATING WITH PAST EVENTS LIKE BUILDING OF TAJ MAHAL
- CELEBRATE NATIONAL DAYS BY HAVING ELOCUTION AND DEBATE
- STUDENTS CAN WRITE PLAYS, STORIES OR POEMS ON HISTORICAL EVENTS

# GEOGRAPHY WITH OTHER SUBJECTS

## Use a Graphic Organizer when Planning





# HISTORY WITH OTHER SUBJECTS

- With geography
- Why could Aurangzeb not hold South India
- Man's evolution cannot be told without discussing the varied geographical settings of the world
- Growth of England due to its geographical conditions
- History of hostility between France and Germany can be explained on the basis of the existence of river Rhine and Lorraine Coal-fields.



# HISTORY WITH OTHER SUBJECTS

- With economics
- Economic conditions play a vital role in the course of history.
- To know the economic conditions of India during the reign of Akbar or Shahjahan , we shall have to go through the pages of history. Certain empires faced liquidation only because of economic reasons
- Similarly, economic events have been influenced by historical circumstances.
- Mohd Tughlak had certain plans, but the historical conditions of the time did not favour them, however later they were considered to be good and scientific.



**THANK YOU**