

Appendix I

VALUE CONCEPTUAL KNOWLEDGE TEST

Time Allowed: 2 hours

Maximum Marks: 100

General Instructions:

The question paper comprises of twenty items .You are to attempt all of them in one sentence. Answers should be in your own words not copied from any source.

A. Co-operation

1. What do you mean by *co-operation* as a value?
2. Define the value of co-operation in your own words
3. What are the attributes of a person having the value co-operation?
4. Write a situation that explains co-operation?
5. What are the benefits of value cooperation?

B. Equality

1. What do you mean by *equality* as a value?
2. Define the value of equality in your own words
3. What are the characteristics of a person having the value equality?
4. Write a situation that explains equality?
5. What are the benefits of value equality?

C. Simplicity

1. What do you mean by *simplicity* as a value?
2. Define the value of simplicity in your own words
3. What are the characteristics of a person having the value simplicity?
4. Write a situation that explains simplicity?
5. What are the benefits of value simplicity?

D. *Dignity of labour*

1. What do you mean by *dignity of labour* as a value?
2. Define the value of dignity of labour in your own words
3. What are the characteristics of a person having the value dignity of labour?
4. Write a situation that explains dignity of labour?
5. What are the benefits of value dignity of labour?

E. *Determination*

1. What do you mean by *determination* as a value?
2. Define the value of determination in your own words
3. What are the characteristics of a person having the value determination?
4. Write a situation that explains value determination?
5. What are the benefits of value determination?

F. *Honesty*

1. What do you mean by *honesty* as a value?
2. Define the value of honesty in your own words.
3. What are the characteristics of a person having the value honesty?
4. Write a situation that explains value honesty?
5. What are the benefits of value honesty?

G. *Common goal*

1. What do you mean by *common goal* as a value?
2. Define the value of common goal in your own words.
3. What are the characteristics of a person having the value common goal?
4. Write a situation that explains value common goal?
5. What are the benefits of value common goal?

H. *Curiosity*

1. What do you mean by *curiosity* as a value?
2. Define the value of curiosity in your own words.
3. What are the characteristics of a person having the value curiosity?
4. Write a situation that explains value curiosity?
5. What are the benefits of value curiosity?

I. *Quest for knowledge*

1. What do you mean by *quest for knowledge* as a value?
2. Define the value of quest for knowledge in your own words.
3. What are the characteristics of a person having the value quest for Knowledge?
4. How quest for knowledge can be developed among students?
5. What are the benefits of value quest for knowledge?

J. *Discrimination*

1. What do you mean by *discrimination* as a value?
2. Define the value of discrimination in your own words.
3. What are the characteristics of a person having the value discrimination?
4. Write a situation that explains value discrimination?
5. What are the benefits of value discrimination?

K. *Discipline*

1. What do you mean by *discipline* as a value ?
2. Define the value of discipline in your own words.
3. What are the characteristics of a person having the value discipline?
4. How discipline can be developed among students ?
5. What are the benefits of value discipline ?

L. *Environmental ethics*

1. What do you mean by *environmental ethics* as a value ?
2. Define the value of environmental ethics in your own words.
3. What are the characteristics of a person having the value environmental ethics?
4. Write a situation that explains the value environmental ethics ?
5. What are the benefits of value environmental ethics?

M. *Spirit of inquiry*

1. What do you mean by *spirit of inquiry* as a value ?
2. Define the value of spirit of inquiry in your own words.
3. What are the characteristics of a person having the value spirit of inquiry?
4. How spirit of inquiry can be developed among students ?
5. What are the benefits of value spirit of inquiry?

N. *Gratitude*

1. What do you mean by *gratitude* as a value ?
2. Define the value of gratitude in your own words.
3. What are the characteristics of a person having the value gratitude?
4. Write a situation that explains value gratitude.
5. What are the benefits of value gratitude?

O. *Compassion*

1. What do you mean by *compassion* as a value ?
2. Define the value of compassion in your own words.
3. What are the characteristics of a person having the value Compassion?
4. Write a situation that explains value Compassion ?
5. What are the benefits of value Compassion?

P. *Flexibility*

1. What do you mean by *flexibility* as a value ?

2. Define the value of Flexibility in your own words.
3. What are the characteristics of a person having the value flexibility?
4. Write a situation that explains value flexibility .
5. What are the benefits of value Flexibility?

Q. Tolerance

1. What do you mean by *tolerance* as a value ?
2. Define the value of Tolerance in your own words.
3. What are the characteristics of a person having the value tolerance?
4. How tolerance can be developed among students ?
5. What are the benefits of value tolerance?

R. Loyalty to duty

1. What do you mean by *loyalty to duty* as a value ?
2. Define the value of loyalty to duty in your own words.
3. What are the characteristics of a person having the value loyalty to duty?
4. Write a situation that explains value Loyal to duty.
5. What are the benefits of value loyalty to duty?

S. Team work

1. What do you mean by *team work* as a value ?
2. Define the value of team work in your own words.
3. What are the characteristics of a person having the value team work ?
4. Write a situation that explains value team work.
5. What are the benefits of value team work ?

T. Learning to live together

1. What do you mean by *learning to live together* as a value ?
2. Define the value of learning to live together in your own words.
3. What are the characteristics of a person having the value learning to live together?
4. Write a situation that explains value *learning to live together*.
5. What are the benefits of value learning to live together?

Appendix II

VALUE PERCEPTION SCALE

Personal Data:

Name:

Sex: Male/ Female

Local Inhabitation:

Age:

Name of the School:

Dear Learners,

This questionnaire has been prepared for the purpose of collection of data for the degree of understanding in perceiving values in varying situations. For every situation there are five options & tick most appropriate options as per your consideration. Perceive the situation according to the given statement only. Your kind co-operation is solicited. Full secrecy will be maintained in information given by you.

Thanking You,

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1.While you are going on road, you see a small crowd gathered around .Two persons are fighting very badly. How would you react to the situation?

- a) You will avoid the situation and move way.
- b) You will call police and request them to manage the situation.
- c) You will request other to manage the situation and try to be away from the situation
- d) You will intervene in the fight and see the ending with positive note.
- e) You will call police and personally see the situation is solved.

2.You have aged and ailing parents at home and you are given a posting abroad on your promotion. What will you do?

- a) Reject the offer right away.
- b) Accept the posting and leave your parents with your brother.
- c) Delay your posting as long as your parents are alive.
- d) Curse your luck as you can't go abroad because of your ailing parents.
- e) Go abroad and leave your parents to their fate.

3. Your friend, who did not help you in your hour of need, is in distress and needs some help.
You will
- Help him whole heartedly without questioning.
 - Help him but remind him that he did not help you.
 - Refuse to help very rudely.
 - Help him indirectly as you are too heartbroken to deal with him directly.
 - Help him as friend sake.
4. A death has occurred in your society. What will you do?
- Attend the family mourning.
 - Console the family and then go to your work.
 - You will not attend the family mourning.
 - Arrange for the family's meal that day besides participating in the funeral.
 - You will pretend that you have attended the family mourning.
5. Your house maidservant, who has worked for your family entire life, has deteriorated in health and cannot perform her regular work. What will you do?
- Sack her and find another sweeper.
 - Allow her to carry on working but cut his salary.
 - Replace her with another maid servant with all financial benefit .
 - Allow her for taking rest with financial help and resume duty after recovery.
 - Allow her to carry on working at his own pace and will take care of her health.
6. In summer break you are on tour to famous Tourist place. During the travel, you see a shopping mall/Supermarket. What would you do in that situation ?
- You will not go for shopping without thinking
 - Go for lavish shopping experience.
 - Take parents with you to buy the needed items only.
 - Take Permission from parent and then go for shopping alone.
 - Think for a while, discuss with parent about the requirement and then go for it.
7. If your boss offers you a promotion which is meant for others with a condition to cover up his/her misconduct. You will
- Accept the offer.
 - Ignore the proposal without making any issue of it.
 - Accept enthusiastically, as you have been waiting for this opportunity.
 - Ask for some time to think about the offer.
 - Refuse flatly and show annoyance for making such proposal.
8. If you found your friend is cheating during an examination, What will you do?
- Inform your teacher.
 - Ignore him.
 - Ask your friend to stop cheating.
 - You join with him for cheating.
 - Make him understand cheating is bad practice.

9. Nikunj is always tempted by the materials like mobile, laptops, video games and costly garments etc used by his friends. He wants to acquire them all at once but his parents cannot afford it. What would you like to do if you were Nikunj ?

- (a) Quarrel with your parents daily to have all those things.
- (b) Steal things from others.
- (c) Ignore all those temptations.
- (d) Work hard in your studies to be established in your life to fulfill your wishes.
- (e) Pray to god for granting your wishes.

10. Reedham is good at studies & always stood with first position in the class but he has a feeling of arrogance due to which he has few friends. Suppose you are Reedham , what would be your response to it ?

- (a) Your feelings are quite natural because you are the first boy in the class.
- (b) Care for others opinion and respect for others in class.
- (c) Always argue with others because you know you are more intelligent than others.
- (d) Consider yourself as always right.
- (e) Knows how to handle your classmate wisely.

11. You are about to choose a leader for your country in election which is fought on several contentious issues. What will be your major priority of casting vote for a candidate?

- a) Candidate who promises safe health care for all its citizens.
- b) Candidate who promises employment for all its citizens.
- c) Candidate who promises security for all its citizens.
- d) Candidate who promises good education for all its citizens.
- e) Candidate who promises overall sustainable development of country

12. You saw a branch of tree lying on the road side touching electric wire and spark is coming out. What will you do?

- a) You will run away from there and do not do anything.
- b) You will inform elder person about this situation.
- c) You will inform electrician of that area.
- d) You will tell your friend about this and forget about that.
- e) You will inform electrician and stay with him till the work is not finished.

13. You saw some factories throw their chemical waste in nearby river water .What will you do?

- a) You do not think about this.
- b) You feel bad for this.
- c) You think of writing a letter to local news paper editor.
- d) You go and inform environmental Safety Officer.
- e) You go and talk with corporation chairman.

14. You know one farmer in your locality is using much more pesticides to grow vegetables. What will you do?

- a) You ignore the condition.
- b) You tell other people to do not buy vegetables from that farmer.
- c) You inform other people to talk with that farmer and you do not do anything.
- d) You tell farmer not to use more pesticides.
- e) Along with all above steps I will inform local authorities.

15, In science laboratory, while performing experiments with friends Yash used to play with harmful chemicals Like acids by touching it directly in hands which everybody do not like. His friend Aniket wants to help him to get out of it. What do you expect from Aniket?

- a) Aniket must make a complain to teacher on the spot.
- b) He must make him understand not to do such type of activities.
- c) He must go to his home and complain about it to Yash Parents.
- d) He should observe Yash activities carefully and convince him about harmful effects of acids.
- e) He must report to the principal of the school about the mischief.

16. A student always get disciplinary punishment in games and PT period by his physical education teacher. What should he do ?

- a) He should report to a class teacher.
- b) He should inform to a principal.
- c) He should talk with his parents regarding this matter.
- d) He should understand the cause of the punishment and try to solve it .
- e) He should avoid games period.

17. A student who always teased by his classmates.

- a) He should give them same reply.
- b) He should inform to school authorities.
- c) He should keep company of good students and try to solve this problem.
- d) He should leave the school.
- e) He should keep silence and avoid them with positive attitude.

18. A student whose parents want him to be a doctor but he want to be a teacher. He often scolded by his parents. What should he do?.

- a) He should tolerate parents and inform them about his will in opportune time.
- b) He should talk with his parents freely about his own wish.
- c) He should convince his parents about his strengths and abilities.
- d) He should discuss about the situations with his close friends.
- e) He should leave the situation up to god.

19. You have a jealous friend who is constantly hurting you with his sarcastic comments.

You

- a) Start passing sarcastic comments about him to hurt him back.
- b) Tell him to mind his own business.
- c) Keep quiet to avoid him.
- d) Speak lovingly to him hoping that he will change his behavior.
- e) Plan to throw him out of the school.

20. In school Shyam while performing experiments with friends in physics lab. On planetary motions, suddenly he got an idea to go for merry go round in school's science park with Mohan and shared with Mohan. What Mohan will do ?

- a) Mohan would suggest Shyam for merry go round after getting permission from the Teacher.
- b) Mohan will request the teacher to take whole class to the science park.
- c) He will not show interest in it.
- d) He should accompany Shyam for the merry go round .
- e) He will suggest Shyam to verify the concept in alternative means in lab.

21. In class teacher is discussing about science magic's. What would you like to do ?

- a) You will listen it carefully and understand the science concept.
- b) You will share one more magic based on same science principle.
- c) You will try learn it on the basis of Principles of science.
- d) You will listen and enjoy.
- e) You will be not interested in it.

22. You are reading newspaper and you found an article on new scientific invention. What would you like to do ?

- a) You will just read it as usual.
- b) You will not read it.
- c) You will read it and enjoy it.
- d) You will discuss with your Science Teacher about it.
- e) You will note down some information from the article and try to find out more about it in detail from other sources.

23. You saw a person broke a coconut and coloured water came out of it and claiming that it is a miracle. How are you going to react for it ?

- a) You will say it is a trick .
- b) You will apply science and disapprove it on the spot .
- c) You understood science behind it and show to your friends.
- d) You will accept that the man has done "miracle".
- e) You will ask teacher to know truth behind it.

24. You observed that while adding lemon juice to iodized salt, it turns blue. What will you think?

- a) You will accept it as a chemical reaction like many others.
- b) You will enquire about it if you do not know about it.
- c) You simply neglect it.
- d) You will say you know the chemical change.
- e) You will find to know about the chemical composition of lemon juice and salt.

25. Pooja a student of std .X wanted to verify solar eclipse concept that was taught by her teacher. On July 27th there was solar eclipse and she wanted to watch it in naked eyes.

- a) She should be allowed to do so?
- b) She should take permission from her parents to watch it in naked eye.
- c) She should consult science teacher to do so.
- d) She should purchase sun screen goggles for watching eclipse.
- e) She should obtain permission from parents & teacher by enquiring other ways of watching eclipse.

26. Science teacher is explaining about insects that insects have six legs. Saket saw a spider on the wall eight legs. Now Saket has questions in his mind about legs of insects and whether spider is an insect!

- a) Saket should ask about it to his teacher immediately
- b) Saket should discuss with classmate only.
- c) Saket should ask to his parents only.
- d) Saket should wait for good mood of his teacher.
- e) Saket should not disturb the class by asking such out of syllabus question.

27. Sanjay went to doctor's clinic for routine checkup and saw a picture showing blood circulation of human body which his teacher explained in previous class. What will he do in the clinic?

- a) He will ask doctor to explain about it.
- b) He will ask doctor to explain about it when the doctor is free.
- c) He will ask to his father about it.
- d) He will observe it carefully.
- e) He will ask to his science teacher by calling her immediately.

28. Sahil saw news about bullet train coming to India. He tried to know that there is something different in normal train engine and bullet train engine?

- a) Sahil should not think about it.
- b) He should try to understand by his own by referring internet.
- c) He will think it will be like normal train with high speed.
- d) He will think that what could be the quality of rail track for bullet train.
- e) He will think what could be the speed of bullet train India.

29. Teacher took the students to school garden to explain about the storage of water by different plants. Ravi asked immediately. What will he do ?

- a) He will ask immediately to the teacher to explain the variation.
- b) He will pluck sample leaves and carry to classroom for discussion.
- c) He will note the variation and observe carefully to find the difference with help of the teacher.
- d) He should discuss about it with friends.
- e) He will not ask such type of question.

30. You belong to a non-Punjabi community. Lohri, a popular Punjabi festival, is being celebrated in your Society. What will You do ?

- a) Protest against the noisy drums being played as you do not like the festival.
- b) Would not allow your family members to participate in the celebration.
- c) You don't go but allow your family to attend the festival.
- d) Go with your family only to observe but do not participate.
- e) Participate with your family wholeheartedly to learn about this new festival.

31. If you find a young boy can't attend school due to lack of money, will you

- (a) Ask your friends to contribute for these fees if you find that your pocket money is less than the amount required.
- (b) Don't bother about him?
- (c) Donate your pocket money and ask him to find the remaining amount from some other means?
- (d) Inform your teachers about it and take help of whole class for the money.
- (e) Talk to your parents about the problem only.

32. Your best friend fell down and hurt his knee during games period. What would be your immediate response?

- (a) You help him to go to the clinic.
- (b) You ignore him and continue playing.
- (c) Ask others to help him.
- (d) Immediately rush to him with other friends and take him to school first aid room.
- (e) Inform to sports teacher about it and see him getting due care.

33. You saw huge plastic waste/kite ropes during Uttarayan celebration that harms birds, animals and human being. What will you do for it?

- a) Feel sorry for these innocent living beings.
- b) Collect all plastic and strings from roadside alone.
- c) Make group of friends to do the job .
- d) Create awareness in the society with the help of friends.
- e) Take help of local youth club for the cleaning work.

34. A female street dog has given birth to puppies near your house. You are watching it from the beginning. What will be yours action?

- a) Bring one puppy in your home.

- b) Feed the dog every day for her nourishment.
- c) Remain indifferent to the matter completely.
- d) Drive the dog and its puppies away as they are creating lot of disturbances.
- e) You don't offer anything but make sure that the dog and her puppies remain safe in your neighborhood.

35. Akash a std. XII Science student was asked to clean his dish by the hostel attendant. What will he do?

- a) He should stop cleaning the dish.
- b) He should shout at his friends in protest.
- c) He will report to the principal about the incident .
- d) He will clean the dish without any hesitation.
- e) He will share his cleaning experience to his peers.

36. In school special function you have been allotted duty in shoe stand randomly. How will you react to it?

- a) He will complete the task and feel unfortunate for it.
- b) He will protest to do the duty .
- c) He will try to exchange the task with some his friends.
- d) He will complete the task whole heartedly.
- e) He will do the duty with lot of hesitation.

37. If you find a roll of toilet tissue paper fallen on the floor of a railway station waiting room toilet, what would you like to do?

- (a) You pick it up and put in the right place.
- (b) You pick it up and take it to the station master.
- (c) You ask the safaiwala to pick it up.
- (d) You ignore it.
- (e) You pick it up and report to waiter about the damage of roll holder.

38. In your school, your class teacher ask the whole class to clean the cycle stand and some of your friends started murmuring. As a monitor what would be your role?

- (a) You will accept the proposal and go for cleaning work alone.
- (b) You will convince your friends for the proposal and go for the work happily .
- (c) You will ignore it as you did not like such type of works.
- (d) You do not care for your school cycle stand.
- (e) You will complete the task with the help of your juniors.

39. You are in a residential school. Due to recent labour strike manual scavengers did not turn up to clean the school baths blocks and toilets. What will you do?

- (a) Register a complain to the hostel warden.
- (b) Organize your friends to show a protest against school authority for mismanagement.
- (c) Inform your parents about the facts and convince them for leaving the school.

- (d) Make an attempt with your friends to take up the challenge and clean it.
- (e) Find a way after discussing with the school authority.

40. Raju and his sister Ranu passed class X exam. Raju got admission in -a CBSE school and his sister did not got the admission in the same school. What will be the feeling of Raju ?

- a) He will accept the decision and pretend to be unhappy.
- b) He will accept the decision and feel guilty about it.
- c) He will accept the decision and feel happy about it.
- d) He will accept it and make sure that sister should get similar kind of school.
- e) He should try to see that both of them should be in same school.

41. In your class few students are from very poor socio- economic background. Their behavior is not matching with rest of the class. What should you do ?

- a) You will not consider them as your friend.
- b) You will consider them as friend unwillingly.
- c) You will be friend with them as and when required.
- d) You will pretend them as my friends.
- e) You will consider them like other friends.

42. You are working in consumer Electronics Company as a senior manager. This year few physically challenged employee joined in that company as supervisor. How will you manage them?

- a) You will treat them like other employee.
- b) You will favor them by considering them as unequal.
- c) You will consider them un equal and bring the measures to make them equal.
- d) You will favor them when they required.
- e) You will treat them equal and assign work according to their abilities.

43. In your hostel committee one member is very mischievous in nature. How will you handle him as a senior?

- a) You will complain to your warden about him.
- b) You will ask warden for replacing him from the committee.
- c) You will remain silent about his behavior.
- d) You will try to understand his behavior and suggest for self correction.
- e) You will remind him about the rules and regulations of hostel committee.

44. Imagine that you are a sports teacher and some students asked to play cricket and volley ball in same time. How will you handle it?

- a) You will scold them for their undue demand.
- b) You will not pay attention to them and go for other game.
- c) You will decide one game as per your wish.
- d) You will give permission to play one game based on majority demands.
- e) You will support their demand and go for both games within the time.

45. Bhoomi is a XII Science student in a CBSE school and his father promised her to give her surprise gift for getting above 90% mark in board exam.

- a) She should increase study hours more than before .
- b) She should study as usual.
- c) She should plan for the study, execute well & work from the beginning of the academic session.
- d) She should wait till the declaration of the exam dates.
- e) She should feel over confident and ignore preparation from the beginning.

46. If one of yours relative is in ICU and some people are talking loudly over there in spite of notice board entitled “Keep Silence”. What you will do?

- a) You will complain to hospital authority.
- b) You will ask them to leave the place.
- c) You will scold them not to talk there.
- d) You will go away.
- e) You will show them notice and ask them to keep silence.

47. In your class two students are fighting for the front row seat. What you will do?

- a) You will move from there.
- b) You will try to understand their problem and remain quiet.
- c) You will inform class teacher about it.
- d) You will short out their problem on the spot.
- e) You will intervene in the matter and ask them not to fight.

48. You are in a queue near railway ticket window, One person come and enters in between. What will you do?

- a) You will still stand on your place and ignore the situation.
- b) You will inform the counter manager not to issue ticket to him.
- c) You will call security immediately.
- d) You will explain to that person to stand in queue.
- e) You will move from there.

49. You see children plucking flowers from the plants in a public park. What will you do?

- (a) You ignore and go on with your walk.
- (b) You stop them and tell them it is not right to do that.
- (c) You make sure the child is out of the park.
- (d) Inform the park administrator about the incident.
- (e) You ask the child about the purpose of plucking flowers.

50. Charmi is a Std.X student in a residential school for last ten years and she was treated well by hostel warden, teachers, support staffs. What will be her behavior while leaving hostel after class X result?

- a) She should take it as granted for all kind of help.
- b) She should take it positively but forget to acknowledge it.

- c) She should acknowledge the help of all school staff, friends, teachers, parents and almighty god for decent, happy hostel life.
- d) She feels happy because she is free from hostel life.
- e) She thinks it is her rights to get the assistance from all in hostel.

51. Enroute to your school, you find an elderly women standing next to you in a crowded bus. What will you do?

- (a) You ignore her and sit comfortably.
- (b) You offer your seat to her.
- (c) You ask her to share the sit with you.
- (d) Ask the bus conductor to arrange a seat for her.
- (e) Inform her to take allotted seat for senior citizens.

52. Earlier men ruled by nature, lived in peace but now men exploiting the nature living in distress. You as a rich man's child what would you like to do for the nature?

- (a) Exploit nature as per your desire.
- (b) Take only what is required for you form the nature.
- (c) No concern for the nature.
- (d) Do not care about others need.
- (e) Respect nature & remain with her like a friend.

53. In the month of August, the principal of your school announced that everyone has to attend Independence Day celebration in the school but some of your friends thought in a different way to go for a new released movie instead of the celebration. What will you do in that moment?

- a) Attend the Independence Day celebration with full enthusiasm.
- b) Instead of attending Independence Day celebration, go for the new released movie.
- c) Convince your friends to attend school celebration as it is important for all of us as an Indian.
- d) Go to school for a while and escape from there for the movie with others.
- e) Attend the program hesitantly.

54. Your parents give you all that are asked for by you due to their love. What do you want to do for them in future?

- (a) You will try to keep them happy as they are living god for us.
- (b) Love them unconditionally all the time.
- (c) Keep them separate but bear their living expenses.
- (d) You will think to provide extra care keeping them in old age home.
- (e) Employ a servant to take care of them.

55. Pranjal is in std. IX in a CBSE school and his science teacher asked him to find out how sun is created & what is the expected life span of Sun in our solar system as summer vacation project. What will he do?

- a)He should take it very seriously and complete the task in time
- b) He should copy from his friends note .

- c) He will get some idea from his friends.
- d) He will consult scientists, professor of science, science museum and record all information.
- e) He thought not to submit the report due to lack of information .

56. Teacher said to std.XII students that we know human being is the topmost creature in human evolution hierarchy. Then he asked group of students to brainstorm on the topic and find “What will happen to it after 100 years from now” ?

- a) They will take it very seriously and complete the task without much external consultations.
- b) They will refer internet only to get the idea.
- c) They will collect information but unable to interpret it.
- d) They will consult genetic experts, professor of anthropology and recorded all information.
- e) They will prepare a casual report on it .

57. On swami Vivekananda Jayanti there is a public Lecture on the ultimate realities of life. You will

- a) Attend the lecture.
- b) Attend it if there is no other important work.
- c) Not attend the lecture.
- d) Influence others not to attend such things.
- e) Attend the lecture at any cost and will influence others to attend it.

58. During the play time you find a sharp metal strip sticking out from the slide in your school play park.

- (a) You ignore and play on something else.
- (b) You warn others of its danger and stand there no one is using it.
- (c) Stop others not to go there.
- (d) Immediately tie some clothes over it and report to sports teacher.
- (e) Report the matter to the principal immediately.

59. You are in a CBSE school and your school has given you the whole years syllabus in the month of April. How will you chalk out your plan for the whole year?

- (a) You will review the plan and make your own for the whole year.
- (b) You will start working on the plan from the very next day.
- (c) You will keep the plan and enjoy the summer break.
- (d) You will wait for the term end exams and then start your study.
- (e) You will keep everything as it is and wait for term end exam.

60. Ketu is a std. X student. Her science teachers assigned her to complete science journal and she could not able to complete it due to domestic work. What she should do in this situation?

- a) She should submit parents note to the teacher.
- b) She should skip school for that day.

- c) She should copy from her friends note book.
- d) She should blame the situation for incompleteness of her work.
- e) She should confess guilty in front of teacher and asked for more time.

61. Rahi is a student of Std.VIII and he got ten rupee coin near the school stairs. What will he do with it?

- a) He will ask to his peers.
- b) He will spend the amount for his class decoration.
- c) He will give the coin to poor and needy.
- d) He will deposit the coin in principal's office.
- e) He will use for his own need.

62. Deesha has been assigned duty of class decoration by her class teacher for forthcoming Ganesh Pooja. She has to attend her friend's marriage same time. What will she do?

- a) She will do her duty honestly and with full faith.
- b) She will pass her duty to her peers and attend marriage.
- c) She will attend the marriage only.
- d) She will leave for home without informing to the class teacher.
- e) She will not accept the responsibility from teacher.

63. Herry is a class Xth Boy along with his friends won the foot ball match by using foul means. At the end of the match if you are in Herry's position then what will you do ?

- a) You will give full description about your mistake.
- b) You will justify it to your peers.
- c) You will reveal the mistake in front of referee.
- d) You will celebrate the win.
- e) You will speak a lie.

64. Ravi is in class IX and he used handwritten cheat in half yearly exam. You are the best friend of Ravi and you have noticed the malpractice in the exam room. What will you do?

- a) You will explain the mistake to Ravi not to follow such unfair means.
- b) You will tell to class teacher.
- c) You will follow the same path.
- d) You will tell him in front of others.
- e) You will not do anything.

65. Environmental activist's Indumani's son Natick a commerce student comes to school by walking 2 km from home and does not go frequently to school canteen for snacks. Some time friends laugh at him. What will he do ?

- a) He should not pay attention to it.
- b) He should feel happy about his habits and setting good example for others.
- c) He should convince others to follow the steps.
- d) He should feel guilty for doing such practice.
- e) He should avoid such groups.

66. You are the most educated member in your family. What will be your behavior towards others?

- a) Flaunt your knowledge all the time.
- b) Point out the shortcomings of everybody.
- c) Advise others on every single opportunity.
- d) offer help only when it is required being a part of family member.
- e) Advise at the right time to empower others.

67. Acharya Praful Chandra Ray is called as doyen of chemistry in India and he lead several team of scientists for making India self reliant on chemical Industries and established Bengal Chemicals and many other industries. He was offered many high paid positions by then governments. What is the underlying message of his life to us?

- (a) He was a man of principle and wanted to serve India.
- (b) He believed in simplicity of life and respected all his colleague.
- (c) He wanted to showcase his genius to all.
- (d) He was a great son of soil.
- (e) He wanted to help India grow in science.

68. One day Ishwar Chandra Vidyasagar was waiting for a guest at railway station. He saw a young man shouting for a coolie & coolie was not there. Young Ishwar picked up the luggage of the young man and dropped at his residence without taking money? What is the message for you from the story?

- (a) He was helpful man.
- (b) He was a morally upright man.
- (c) He was a learned man.
- (d) He was a virtuous man.
- (e) He was showcasing himself.

69. You and your brother is very fond of taking sweets but your brother has developed tooth decay because of eating of sweets. You will

- a) Scold your brother for taking sweets.
- b) Feel ashamed of you own eating habits but don't take any action.
- c) Hide sweets from your brother but you continue eating sweets.
- d) Eat fewer from amount of sweets so that your brother can also follow you.
- e) Allow your brother to continue eating chocolate without any reprimand.

70. In class Science teacher was discussing about Large Hadron Collider(LHC) experiment and search for god particle where large number of people around the world worked together tirelessly to make the experiment a successful one. Because

- a) The success was luck by chance.
- b) It was a group work of world's finest talent.
- c) There was a great urge to know about the creation of our universe.
- d) Science disapprove existence of God.
- e) They used superior technology and collaboration method.

71. You have been working extremely for a deal – Your trainee has not done much. Your supervisor thinks you have been lazy which you feel is the unfair criticism. Which of the following do you decide to do fair?

- a) Approach the partner of the firm as things have come to a head.
- b) Approach your trainee's colleague to discuss confidentially.
- c) Discuss with supervisor.
- d) Behave rudely with trainee.
- e) Work more accurately with a trainee.

72. You do not feel the project work is being distributed in a fair way by your supervisor to the members of your team. How do you decide to proceed with these issues?

- a) Mention to your supervisor and discuss your concern.
- b) Hope that issues blow over.
- c) Writing e-mail to your supervisor.
- d) Start behaving nervously to show your concern.
- e) Leave matter on time.

73. You are supervising fact- finding mission to find out behavior strategy. Which of the following aspects should emphasized in the formation of your team.

- a) A desire to be accepted by others.
- b) Controversy and conflict.
- c) Serious issues and feelings.
- d) Analytical abilities.
- e) Analysis and technical abilities.

74. After solving all matters you are not getting results as expected. Team doesn't seem motivated rather depending on instructions. Which of the following factors might have contributed to regulate team-work?

- a) Understand Indian way of life. Major religion holidays.
- b) Creating an open environment.
- c) Pay incentives.
- d) Give long term financial benefits.
- e) Use moral-values.

75. Once Science teacher was explaining about Fighter Pilots who orchestrate attack against enemies of our country through targeted strikes by missiles. The pilot enters to enemy territory for few minute and drops the missile to make large scale damage to enemies without thinking for own life because:

- a) All pilots are paid by Air Force to do their duty.
- b) They are executing the command of senior officers.
- c) Pilots have no rights for safety of their personal life.
- d) Fighter pilots are passionate people who are ever ready to sacrifice their life for the sake of Country.
- e) They are loyal to the country and having love for country.

76. Dussehra break is about to begin shortly. Your teacher has given you work on a holiday. What will you do ?

- a) You will say it is holiday you will not work.
- b) You will give it to someone else.
- c) You will do it half and ask for more time.
- d) You will do it.
- e) You will complete all task lovingly.
- f)

77. You are staying in hostel and if any work is being distributed in hostel for you what will be your reaction?

- a) You will keep quiet.
- b) You will let others to do work.
- c) You will not take part in work distribution.
- d) You will help others but will not be the in charge.
- e) You will be in charge and also help others.

78. You are a member of school sports committee. What would be your role in the committee?

- a) You will be a passive member.
- b) You will skip the sports committee responsibilities.
- c) You will work for moral boost up of others.
- d) You will work by yourself.
- e) You will inspire others by setting good example through work.

79. While crossing road you saw red light but no traffic police is there. What would be your next step?

- a) You will stop and wait for green light.
- b) You will jump the red-light.
- c) You will jump with excuse that you will not do when traffic police is there.
- d) You will explain others not to do.
- e) You will wait for green signal and then move.

80. In village adoption programme of the school, students are asked to distribute food and clothes to the families of villagers But they are not familiar with the family members, number. of people living in the village and what are the sources available for living for which they took the help of sarpanch and village head because:

- a) Students team felt that without their help it is difficult to take up the task.
- b) Any one wants to do something must report to Sarpanch.
- c) Working together with good understanding make the work more successful.
- d) Service work can be managed by one person only.
- e) Involvement of local leaders makes the work easy.

81. You are in foreign country and you are not knowing their language and nobody co-operates with you and do not help you. What will you do?

- a) You will leave that country.
- b) You will tell people to speak in your language.
- c) You will fight with them.
- d) You will try to understand and learn their language alone .
- e) You will ask them to help you to understand and learn their language.

82. You are working in a company. One day a colleague whose work was pending due to sickness approaches you for help. What will you do?

- a) You will help him unconditionally.
- b) You will report to the supervisor.
- c) You will give him excuses for it.
- d) You will not help him.
- e) You will help him only in your free time.

83. In your school Thursday cleaning activity is a regular one and you are asked by your class teacher to lead one day cleaning activity. What would you like to do?

- a) You will prefer to work with your close friends.
- b) You will only instruct others to do work.
- c) You will work with everyone happily .
- d) You will distribute activity to your friends depending on their abilities.
- e) You will try to influence your class and work together .

84. You see an elderly man carrying heavy bags of groceries walking in village road . What would you do?

- (a) You offer to carry some of his bags.
- (b) You ignore and go away.
- (c) Carry all the bags.
- (d) Go along with him without carrying bag .
- (e) Ask others to help him.

85. Your friend planned to visit Amaranth But due to bad weather condition the visit was postponed. As a friend what will you suggest for him?

- a) India cannot be lagging behind first world countries.
- b) Development in Science and Technology (S&T) needs focused vision and mission.
- c) Through S&T development India's progress can be achieved.
- d) Science is considered as the engine of our growth.
- e) S&T development needs constant up gradation of our existing knowledge of science.

86. You are preparing for a competitive exams but unfortunately your father suffers huge loss in his business creating family disturbances. You will

- a) Try to help father and concentrate on the exam.

- b) Accuse family for the disturbance.
- c) Leave the examination in between.
- d) Remain calm and try to get out of the situation.
- e) Concentrate more to solve family problems and take the exam lightly.

87. If you find your classmate bullying another junior, would you

- (a) Ask your friend to stop bullying.
- (b) Join your friend and start bullying.
- (c) Run away, its not your problem.
- (d) Inform to the teacher .
- (e) Intervene immediately and rescue the junior boy.

88. You are in a boarding school and you are given two week break before examination and you are planning to take preparation staying at the home. How will you manage your break?

- (a) You will plan for a special preparation.
- (b) You will cut down time for your usual activities.
- (c) You will plan for friends get together.
- (d) You will avoid distractions at that time .
- (e) You will enjoy the break with minimum preparation for exam.

89. You are a nature lover. You are in a city school where all students are from high income group and most of the students use to come school by personal vehicle. What will you do?

- (a) You will complain to your parents for not having such facility for you.
- (b) You will convince your friends to avoid personal vehicle and use school bus.
- (c) You will make a presentation in school assembly about air pollution and its impact on us with the help of teacher.
- (d) Leave the situation as it is .
- (e) You will continue coming in school bus only .

90. If you are walking in a park and you saw water tap is open and there is waste of water. What would you like to do ?

- a) You will close the tap and proceed.
- b) You will inform authority to do it .
- c) You will ignore it.
- d) You will stop it and ensure water leaking is not there.
- e) You will hope someone else will do it for you.

91. You are purchasing an article from the shop keeper and shop keeper asked you to collect bill by paying extra amount? What will you do?

- a) I will collect the bill and pay the extra amount.
- b) I will collect the bill and advice the shop keeper not to do like this.
- c) I will collect the bill and pay the extra amount.
- d) I will not collect the bill and request the shopkeeper not to advice others.
- e) I will not collect the bill.

92. If a road construction is going on close to your land
- I will give the land to because I do not want to go against the govt.
 - I will give my land as per the government rate by looking into the larger benefit.
 - You will give the land but ask for compensation as per market rate.
 - I will not give the land at any cost.
 - I will give the land under severe compulsion.
93. Money was collected from the residents of your society for the rehabilitation works of Chennai Flood victims. You are the cash in charge and what would be your mental state at that moment?
- Have a party with friends with certain amount of money and keep rest of the money for the flood victims.
 - Keep money in proper custody as it is meant for victims.
 - You also contribute certain amount for that purpose.
 - Keep detailed record for it & handover to the team leader in time.
 - You demand some amount for your services that you provided.
94. If you find your neighbour has kept a little girl as a maid, will you
- Convince your neighbour not to hire children to work in the house as employing child labor is prohibited by law.
 - Ignore the incident.
 - Don't tell anything to your neighbour but promise yourself never to employ children.
 - Inform to the police about it.
 - You will contact to her parents and convince them to send their girl to school .
95. In present day due to scientific developments our age old Indian culture is facing several challenges from the West economists and law makers. A fresh look can be given to it because:
- Culture which does not caters to the need of the time become obsolete.
 - People must feel pride in owning such culture which accommodates the change.
 - Culture must not undergo change whatever the situation may be.
 - Our culture is the best because it embraces diversity.
 - We must not worry much about our culture.
96. There is a marital discord among your parents. What you think about their reaction?
- Father will try to dominate mother all the time.
 - He will remain silent but do all your duties with hatred.
 - He will encourage your mother to feel confident and help her to celebrate life.
 - He will realize that man and woman are born with different natural qualities which should complement to strengthen the bond.
 - They will try to resolve it amicably.
97. If your best friend has fever and he has not been attending school, will you
- Ring him up and inform him about all the work being in school?
 - Don't bother about your friend, it's a mild fever after all?

- (c) Ring up your friend to wish him speedy recovery but don't share your notes with him?
- (d) Go and see him personally.
- (e) You are least bothered about him.

98. You see some empty plastic bottles lying in the sand pit of school Play Park. What would be your response towards it.

- (a) You ignore them and go on in your way.
- (b) You pick them and throw them in the garbage bin
- (c) Call your friends and collect all, drop them in recycle bins.
- (d) Inform house master about it.
- (e) Ask the school peon to do the job.

99. Values are applied through skills which are performed through actions and communications. People with different background of knowledge and experience often perceive the same thing differently. Is it applicable for you as well? What will be your conclusion?

- (a) Perceptual difference is due to sex.
- (b) Perceptual difference is due to age.
- (c) Perceptual difference is due to Intelligence quotient (IQ) and emotional Quotient (EQ).
- (d) Perceptual difference is due to all of the above.
- (e) Everybody must perceive in same way.

100. Communication in day to day life seems vital one. Active listening helps us to find new ways of approaching any problem but passive listening is not much useful in our daily life. Life needs both of those skills because

- (a) Passive listening promotes our own preconceived notions and ego.
- (b) Active listening promotes our power of hearing others.
- (c) Active listening promotes flexibility of our mind.
- (d) Passive listening is always good.
- (e) Using both passive listening and active listening are not a good idea.

Appendix III

ACHIEVEMENT TEST IN SCIENCE

Time Allowed : 1 hours

Sub: Science

Maximum Marks : 50

General Instructions :

1. The question paper comprises of two Sections, A and B. You have to attempt both the sections.

2. Question numbers 1 to 30 in Section-A are one mark questions. These are to be answered in one word

or in one sentence (Answer any 28 questions)

3. Question numbers 31 to 43 in Sections-B are two marks questions. These are to be answered in about

30 words each. (Answer any 11 questions)

SECTION-A

- 1 State the process by which living plant cell loses water.**

- 2 Name the force which is responsible for the earth revolving around the sun.**

- 3 Calculate the momentum in SI units of a toy car of mass 200 g moving with a speed of 5 m/s.**

- 4. Why is the rate of diffusion faster in gases?**

- 5. Which property of gases help us in detecting the leakage of LPG gas?**

- 6. How does the rate of diffusion change with density of liquid and temperature?**

- 7. Why light and sound are not considered as matter?**

- 8. Convert 370 K into Celsius Scale ($^{\circ}\text{C}$).**

- 9. Select the substances which follow the process of sublimation:
Ice, ammonium chloride, salt, naphthalene, ghee, coconut oil, camphor.**

10. **Classify the following as element and compound:**
(i) Silver (ii) Methane (iii) Water (iv) Mercury
11. **Which process is involved in the movement of water from outside into the cell?**
12. **Lysosomes are often called ‘suicide bags’. Why?**
13. **Name the Tissue that forms inner lining of our mouth.**
14. **What is the role of epidermis in plants ?**
15. **What is the difference between ligament and tendon?**
16. **Define the term average speed.**
17. **When the acceleration of a body is positive?**
18. **State a relationship connecting u , v , a and t for an accelerated motion. Give an example of motion in which acceleration is uniform.**
19. **Define inertia of direction. Give one examples of inertia of direction.**
20. **Why is glass or chinaware packed with straw?**
21. **Why is the Newton’s first law of motion also called ‘law of inertia’?**
22. **Does the value of ‘G’ depend on the medium present between the two bodies?**
23. **Why is the gravitational force between ordinary sized object not noticeable?**
24. **Name four Kharif season crops.**
25. **To what factors cultivation practices and crop yield are related?**
26. **What is manure ?**

27. What do you mean by genetic manipulation?
28. In what sense does the moon fall towards the earth? Why does it not actually fall on the earth's surface?
29. If you open a bottle of perfume in one corner of a room, it immediately spreads throughout the room. State the property involved.
30. Give one example of each of—the Nitrogen fertilizers, Potassic fertilizers and complex fertilizers.

SECTION – B

31. Can a body have constant speed but variable velocity ?
32. Draw velocity-time graphs for the following cases:
(i) when the object is rest.
(ii) when the object is thrown vertically upwards.
33. What are the functions of the stomata? Write any two functions of stomata.
34. With the help of a suitable example, explain the terms distance and displacement.
35. What will happen when
(i) an egg without shell placed in concentrated salt solution for 5 minutes.
(ii) an egg without shell placed in pure/distilled water for 5 minutes. Give reason in brief.
36. List four major functions of a cell.
37. Air is considered a mixture and not a compound. Explain.
38. How do vegetables remain fresh on being sprinkled with water ? Explain
39. A ball is dropped from a height of 20 m. If its velocity increases uniformly at the rate of 9.8 ms^{-2} , calculate the velocity with which it strikes the ground ?

- 40. Two students A and B were given 10 ml of water in a bowl and a plate respectively. They were told to observe the rate of evaporation. Name the student whose water evaporates faster and write the value associated with A & B?**
- 41. Indicate the forces of action and reaction in the following cases:**
(i) A stone suspended by a thread from the ceiling;
(ii) Motion of moon around the earth
- 42. State Newton's universal law of gravitation. Define universal gravitational constant & Write values associated with it.**
- 43. If in the determination of melting point of ice, the ice is contaminated with some non-volatile impurity like common salt, how the melting point of ice is affected?**

Appendix IV

REACTION SCALE

Dear Students

This questionnaire has been prepared for the purpose of collection of data for the reaction towards different aspects of Value Integrated Experiential Learning (*ViEL*). The statements are given with five point scale viz. Strongly Agree (SA), Agree (A), Can not Say (CNS), Disagree (D) and Strongly Disagree (SD). Tick mark in the appropriate box against the statements. These statements aim only at finding out your belief for the Value Integrated Experiential Learning (*ViEL*) approach. You respond to these statements according to what you believe and not according to what you are supposed to believe. Your truthfulness in answering to the statements would be valued and your cooperation highly appreciated. Your kind co-operation is solicited. Full secrecy will be maintained in information given by you.

Thanking You,

Bibhuti Narayan Biswal Research Scholar Department of Education ,FoEP.,
The M.S.University of Baroda, Vadodara

Sl.No	Descriptors	Response				
		SA SDA	A	CNS	DA	
1	Value Integrated Experiential Learning (<i>ViEL</i>) was an active way of learning science for me.					
2	It helped me to construct my own knowledge & understanding about science.					
3	ViEL enabled me to apply my gained knowledge across the disciplinary boundaries.					
4	ViEL provided to me ample opportunities for self observation, exploration, discovery.					
5	ViEL offered adequate opportunity for the use of reference materials, periodicals, journals, magazines & other printed materials.					
6	My Individual interests and needs were taken care of in Experiential learning process.					
7	ViEL opened up ways for me to co-operate with my friends.					
8	ViEL in science helped me to improve my relationship with peer group.					

9	ViEL helped me to use the available resource materials optimally.					
10	ViEL helped me to explore new knowledge in science.					
11	ViEL helped me to bring out values inherent in all activities.					
12	ViEL connected teachers with students and students with students.					
13	ViEL fostered to enhance my skills.					
14	It enabled me to think out of box.					
15	ViEL helped me to learn Science easily.					
16	The activities like storytelling, role playing, Value games etc. of ViEL made me curious.					
17	The explanation on values in ViEL were clear.					
18	The classroom management during ViEL was good.					
19	Multimedia shown during ViEL were attractive.					
20	During ViEL, new terminologies were clarified by the teacher.					
21	ViEL has helped me in solving day-to-day life problems.					
22	I under stood the importance of Values in the life due to ViEL.					
23	ViEL helped me for to practice values in my life through self reflection.					
24	I have learned reasoning and thinking rationally though ViEL					
25	ViEL helped to improve my concentration and mental peace through Silent sitting.					

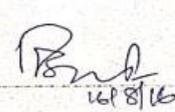
Appendix V Teachers Observation Diary

Some point of time I was feeling frustrated that I could not do many of the things. I had no assistant to control students...Some time children were disruptive and much of my initial time was spent on classroom management. To me this *ViEL* has been the key to entering their worlds and finding out what was most meaningful to them.

Teacher's observation

Students' Name: Diny PetClass Activity Rolling the ball Observation date & Time 4:00 pm
 Topic: Force & Motion

Behaviour	Observation
➤ Willingness to follow instructions	<u>Good</u>
➤ Effective communication	<u>Excellent</u>
➤ Handling misunderstanding	<u>Slightly shaky</u>
➤ Role in peer group discussion	<u>Taking partial interest</u>
➤ Self-reflection	<u>Good</u>
➤ Working on ideas	<u>Trying to show it</u>
➤ Peer group discussion	<u>Involved in looking around.</u>
➤ Team work	<u>No</u>
➤ Leadership	<u>OK</u>
➤ Time Management	<u>Good.</u>
➤ Attitude towards work	<u>Positive</u>
➤ IT skill & its implementation	<u>—</u>
➤ Creativity	<u>Keen to go to</u>
➤ Value practice	<u>showed little interest in the activity.</u>


 16/8/16

Appendix VI

SAMPLE ANECDOTAL RECORD

Anecdotal Record



Name of Students Divya Patel Section: B Year: 2016

(A) General Behavior Date 17.08.2016

Description about the incident: child was trying to raise hand but looked to his friend not raising the hand because he was confused

Actions/Recommendations/Notes He need to practice focused reading and self reflection.

(B) Is there any point you want to work on immediately? Date

fundamentals for solving numericals, short cuts for numericals to be avoided.

(C) Domain Knowledge Development Date & Observation

Social Development	2/5	cordial to friends.
Creativity	5/5	Developing Stage
Discovery & Thinking skill	6/5	Some time exhibits.
Emotional Development	8/5	Developing Stage
Language Development	9/5	fluent in speaking

Date: 17/08/2016

 Signature of Teacher

Appendix VII

SAMPLE LESSON PLAN

Name of The Teacher:	Bibhuti Narayan Biswal
Name of the School:	Sri Sathya Sai Vidyaniketan
Grade Level	Std.IX
Subject:	Science
Unit:	Force and laws of motion
Topic:	Newton's laws of motion
Value integrated	Value of co-operation, Team work and Discipline
Entry Behaviour:	Students have the prior knowledge about the concept of matter.
General Objective:	<ol style="list-style-type: none">1. Students will be able to understand the concept of force.2. Students will be able to understand different types of force.3. Students will be able to understand difference between balanced and unbalanced force.4. students will be able to understand newton's first law, second law and third law of motion5. Students will be able to develop the ability of self analysis.6. Student will develop curiosity
Concept Statement: Student will develop holistic understanding about the concept of force and laws of motion	

Key Terms: force, balanced force, unbalanced force, first law of motion, Inertia, second law of motion, third law of motion, conservation of momentum

Facts:

1. A pull or push which produces or tends to produce a change in state of rest or uniform motion, its direction or its shape of the body is called force.
2. Force can be classified as balanced force and unbalanced force.
3. The unbalanced force brings the object in motion.
4. Newton law of motion- law of inertia, law of momentum and law of equal and opposite reaction

5. Newton's first law of motion states that "Every object continues in its state of rest or of uniform motion in a straight line unless it is compelled by some external force to change that state.
6. Inertia is the inability of the body to change by itself its state of rest or of uniform motion in a straight line.
7. Newton's second law of motion states that force on the object is proportional to the product of the mass of the object and its acceleration.

$$F = m \times a$$
8. Newton's third law of motion states that "for every action, there is an equal and opposite reaction

Enable		Time 3-5 min.
Teacher will do	Probing/Eliciting questions/students responses	Student will do
<p>Teacher will begin the class with silent sitting for all.</p> <p>Teacher will initiate the topic with a coin in hand and ask students to begin the class with silent sitting.</p>	<p style="text-align: center;">Experiential learning on <i>Motion</i></p> <p><i>Steps involved in EL</i></p> <p>Teacher will ask students to go through the chapter and find new words/ key words.</p> <p>Teacher will ask everyone to contribute one word without repetition.</p>	<p>Student will actively participate in activity</p> <p>Students will observe different situations based on that students will analyze whether object is in motion or not.</p>
Transition statement: Today we are going to learn the effect of force on motion		

Question to think;

What is force?

Differentiate between balanced and unbalance force

What is motion? What is inertia?

State first law of motion

Derive the relation between force and change in momentum

State second law of motion , State third law of motion

Major concept: concept of force

Minor concept: unbalanced and balanced force.

Major concept: Newton's law of motion

Minor concept: Newton's first law of motion, Newton's second law of motion, Newton's third law of motion

Engage Time 3-5 min.		
Teacher will do	Probing/Eliciting questions/students responses	Student will do
Teacher will call one student to write all words in black board.	How motion is important in our life ? Students wrote one word each in the black board.(Board is full of words)	wrote all words surrounding motion. They are asked to copy it in their science note book.
Transition statement: Today we will analyse the concept of motion with respect to force		

Explore Time 3-5 min.		
Teacher will do	Probing/Eliciting questions/students responses	Student will do
Teacher will divide students into three groups Teacher illustrates difference in force by giving example of tug of war. Teacher will ask students to classify all examples into different types.	Let us understand facets of motion in our life. All students copy total words contributed by all.	Students form three groups Students will classify collected words into different categories.
Transition statement: classification of forces as balanced force and unbalanced force.		

Elaborate Time 3-5 min.		
Teacher will do	Probing/Eliciting questions/students responses	Student will do
Each group will be given ten minutes of time for the presentation. Teacher demonstrate different example of motion by making use of ball, pendulum etc. and explains Newton's three laws of motion.	All sub groups are asked to work on each component of the given words after its proper classification. Prepared web chart after due classification of words. Each group will have their	Each group will work on their subthemes Students will formulate some activities for their better understanding. Students actively observe and participate in demonstration based on laws of motion. Students will formulate some

Teacher will be writing all necessary points for post presentation discussion.	own web chart for the presentation.	activities for their final presentation like rolling ball on the floor, Crushing a paper cone, pressing a dough etc.
Transition statement: Understanding effect of force and laws of motion		

Explain			Time 3-5 min.
Teacher will do	Probing/Eliciting questions/students responses	Student will do	
Teacher will provide clues to link values like Flexibility, Co-operation, Discipline etc along with contents.	Value activities: Story telling: There is always something to be thankful for. Value Song: Gods Love is so wonderful, Oh wonderful love. Key word dictionary Anagrams.	Students will be able to understand about the value of Flexibility, Cooperation, Discipline	
Transition statement: Today we are going to look at different examples where Newton's law of motion acts effectively			

Evaluate			Time 3-5 min.
Teacher will do	Probing/Eliciting questions/students responses	Student will do	
Teacher will provide different flash cards having some pictures of examples of laws of motion. Teacher divides the board into three parts and asks students to pick up flash cards one by one and paste it into correct column of Newton's law Hints: Teacher will give hints students to use five teaching technique (silent sitting , prayer, storytelling, group singing, group activity) in their presentation.	Teacher will be writing all necessary points for post presentation discussion on board. Teacher will ask students to prepare notes and complete textual exercises for concrete conceptualization.	Students will analyze and paste flash cards into columns assigned for different laws of motion based on their understanding. Ready for classroom presentation.	
Transition statement: Complete Understanding of Newton laws of motion with examples			

Chapter -2

Name of The Teacher:	Bibhuti Narayan Biswal
Name of the School:	Sri Sathya Sai Vidyaniketan
Grade Level	Std.IX
Subject:	Science
Unit:	Is matter around us pure
Topic:	Mixture and its types
Value to be integrated	Value of co-operation, Team work, Honesty, Simplicity, Tolerance, quest for knowledge.
Entry Behaviour:	Students have the prior knowledge about the concept of mixture
General Objective:	<ol style="list-style-type: none">1. Students will be able to understand the concept of mixture in detail.2. Students will be able to understand types of mixture3. Students will be able to understand different separation techniques4. Students will be able to understand the concept of pure substance element and compounds5. Students will be able to develop the ability of self analysis.6. Student will develop curiosity about day to day materials like salt, honey, Silver,

Concept Statement: Student will develop holistic understanding about the concept of mixture and pure substances along with their types

Key Terms: Mixture, true solution, suspension, colloidal solution, elements and compounds

Facts:

9. The chemical constitutions of matter are categorized as element, compound and mixture.
10. Mixtures are constituted by more than one kind of pure form of matter, known as a substance.
11. Elements or compounds just mix together to form a mixture and no new compound is formed.
12. A mixture has a variable composition
13. A mixture shows the properties of the constituent substances. These constituents can be separated fairly easily by physical methods.

14. Mixture can be classified as heterogeneous mixture(suspension and colloidal solution) and homogeneous mixture(true solution)
15. Mixture can be separated by different techniques such as evaporation, sublimation, separating funnel, chromatography, distillation and fraction distillation.
16. Elements are the simplest form of matter which cannot be broken down into two or more simpler substances by ordinary chemical methods (such as applying heat, light or electric energy).
17. A compound is a pure substance made up of two or more elements chemically combined with one another in a fixed proportion by mass.
18. Properties of a compound are different from its constituent elements, whereas a mixture shows the properties of its constitution elements or compounds.

Enable		Time 3-5 min.
Teacher will do	Probing/Eliciting questions/students responses	Student will do
<p>Teacher will initiate the topic with piece of iron in hand and ask students to begin the class with silent sitting.</p> <p>Teacher asks students to analyze whether they belong to mixture or not based on their previous knowledge.</p>	<p>What is in my hand?</p> <p>Experiential learning on <i>Purity of matter</i></p> <p><i>Steps involved in EL</i></p>	<p>Student will begin the class with silent sitting</p> <p>Students will classify different combination of substances as a mixture and its different types.</p>
<p>Transition statement: Today we are going to classify different types of mixture by performing different activities.</p>		

Question to think:

What is mixture?

What are different type mixtures?

What are heterogeneous mixtures?

What are homogeneous mixtures?

Differentiate between true solution, colloidal solution and suspension

Explain different separating techniques- evaporation, sublimation, chromatography, distillation and fraction distillation.

What is element?

What is compound?

Differentiate between compound and mixture.

Major concept: Concept of mixture and its type

Minor concept: heterogeneous mixture, homogeneous mixture, true solution, colloidal solution and suspension

Major concept: Separation techniques for separation of mixtures

Minor concept: evaporation, sublimation, chromatography, separating funnel, distillation and fraction distillation

Major concept: Concept of element and compound

Minor concept: example based on concept of elements and compounds, difference between mixture and compounds

Engage		Time 3-5 min.
Teacher will do	Probing/Eliciting questions/students responses	Student will do
Teacher will ask students to write different examples of mixture based on the activity performed in class		Students write different examples of mixture on the board. Students classify different mixtures as homogeneous and heterogeneous mixture
Transition statement: Today we will analyze different types of mixture		

Explore		Time 3-5 min.
Teacher will do	Probing/Eliciting questions/students responses	Student will do
Teacher will explain the different separation techniques used for separating mixture with the help of day to day life experiences and by demonstration of some experiments. Teacher will divide students into 3 groups and ask them to give different examples of mixture which can be separated by following separating techniques Teacher will ask students to classify all examples into three categories as solid, liquid and gas.		Students form three groups Students will observe the demonstration of experiment and classify collected examples into different categories. Students will classify all examples based on their separating technique
Transition statement: classification of different mixtures		

Elaborate Time 3-5 min.		
Teacher will do	Probing/Eliciting questions/students responses	Student will do
<p>Each group will be given ten minutes of time for the presentation.</p> <p>Teacher will be writing all necessary points for post presentation discussion.</p>		<p>Each group will work on their subthemes Students will formulate some activities for their better understanding.</p> <p>Students will formulate some activities for their final presentation.</p>
Transition statement: understanding different separating techniques		

Explain Time 3-5 min.		
Teacher will do	Probing/Eliciting questions/students responses	Student will do
<p>Teacher will provide clues to link values like Team work, Cooperation, Discipline etc along with contents.</p>		<p>Students will be able to understand about the value of Team work, Cooperation, Discipline</p>
Transition statement: Today we are going to look at all aspects of tissue, elements and compounds		

Evaluate Time 3-5 min.		
Teacher will do	Probing/Eliciting questions/students responses	Student will do
<p>Teacher will provide different objects to students and will ask them to classify these objects based on their chemical properties.</p> <p>Hints: Teacher will give hints students to use five teaching technique (silent sitting , prayer, storytelling, group singing, group activity) in their presentation.</p>		<p>Students will analyzedifferent items based on their understanding of mixture, its types and different separating techniques.</p>
Transition statement: Properties of mixture, compound and elements its types		

Appendix VII

EXPERIENTIAL LEARNING CONSOLIDATED PLAN

UNIT -I

TOPIC/SUB TOPIC	OBJECTIVES	TEACHER ACTION	STUDENT ACTION	TIME
Chapter 1:	Instructional Objectives	Teacher will initiate the topic with CD in hand and ask students to begin the class with silent sitting.	Student will begin the class with silent sitting	4.4.16-12.4.16 (8days)@40 min/class
<i>Matter in our Surrounding</i>	Students will be able to understand about matter, Students will be able to understand states of matter and their conversions	Experiential learning on Matter <i>Steps involved in EL</i>	Student will respond to teacher about the CD and begin their work.	40 min
	Content objectives:	Teacher will ask students to go through the chapter-1 & find new words/ key words.	Turning pages of the chapter no.1 of Science book carefully	40 min
	Students will be able to understand Matter definition. Students will be able to comprehend meaning of physical nature of matter. Students will be able to understand Characteristics of Particle of matter. Students will be able to understand States of matter. Students will be able to understand liquid state, evaporation, factors affecting evaporation.	Teacher will ask everybody to contribute one word without repetition. Teacher will call one student to write all words in black board. Teacher will be divided all students into a groups of 5. Teacher will ask them to classify all words into sub headings. Teacher will ask them to work as a group on the selected sub topic.	Speaking one by one about the matter. A student was called to write all words surrounding matter. They are asked to copy it in their science note book. After that student form groups randomly. Students will classify those	40 min

	Students will be able to understand Evaporation causes cooling and some practical examples of evaporation	Teacher will allot ten minutes of time for each group for the presentation. Students will be writing all necessary points for post presentation discussion.	collected words and give a suitable title to it. Students will prepare a master web chart. Each group will work on their subthemes under the strict supervision of teacher.	
	Value Objectives	Students will be asked to prepare notes and complete textual exercises for concrete conceptualization	Students will formulate some activities for their final presentation.	40 min+ 40min
	Students will be able to understand about the value of Common goal, Discrimination and curiosity	Hints: Teacher will give hints to students to use five teaching technique(silent sitting , prayer, storytelling, group singing, group activity) in their presentation	Students will search for the connection of values with their subtopic and topic as well.	40 min+ 40min.
			Total	320 min.
Chapter 2	Instructional Objectives	Teacher will initiate the topic with piece of iron in hand and ask students to begin the class with silent sitting.	Student will begin the class with silent sitting	10 days 4.7.16- 14.7.16
<i>Is matter Around us Pure ?</i>	Students will be able to understand about physical and chemical change. Students will also be able to understand pure substances (Experiential learning on Purity of matter <i>Steps involved in EL</i>	Student will respond to teacher about piece of Iron and begin their work.	@40 min/class

	elements) , mixtures and its type in details.			
	Content objectives	Children will be asked to go through the chapter 2 & find new words/ key words.	Turning pages of the chapter no.2 of Science book carefully	40 min
	<p>Students will be able to understand definition of element, compound and mixtures.</p> <p>Students will be able to comprehend types of mixtures like Homogeneous and heterogeneous mixture.</p> <p>Students will be able to understand Characteristics of solution like solid –solid solution, solid liquid solution, suspension, colloidal solution etc..</p> <p>Students will be able to understand physical changes and chemical changes.</p> <p>Students will be able to understand methods of separation of substances like distillation, fractional distillation.</p>	<p>Teacher will ask everybody to contribute one word without repetition.</p> <p>Teacher will call one student to write all words in black board.</p> <p>Teacher will divide all students in groups of 5.</p> <p>Teacher will ask them to classify all words into sub headings.</p> <p>Teacher will ask them to work as a group on the selected sub topic.</p> <p>Teacher will allot ten minutes of time for each group for the presentation.</p>	<p>Speaking one by one about the matter.</p> <p>Nishant was called to write all words surrounding Purity of matter. They are asked to copy it in their science note book.</p> <p>After that students forms groups randomly.</p> <p>Students will classify those collected words and give a suitable title to it.</p> <p>Students will prepare a master web chart.</p> <p>Each group will work on their subthemes under the strict supervision of teacher</p>	40 min
	Value Objectives	Teacher will write all necessary points for post presentation		40 min

		discussion on the board.		
	Students will be able to understand about the value of Honesty, Simplicity, Tolerance, quest for knowledge.	Teacher will ask students to prepare notes and complete textual exercises for concrete conceptualization. Hints: Teacher will give hints students to use five teaching technique(silent sitting , prayer, storytelling, group singing, group activity) in their presentation	Students will formulate some activities for their final presentation. Students will search for the connection of values with their subtopic and topic as well.	40 min.
		Chapter end test (40) min.extra	Total time to be spent	400 min.

UNIT -II

TOPIC/SUB TOPIC	OBJECTIVES	TEACHER ACTION	STUDENT ACTION	TIME
Chapter 5:	Instructional Objectives	Teacher will initiate the topic with microscope and a leave in hand and ask students to begin the class with silent sitting.	Student will begin the class with silent sitting	40 min/class
<i>The Fundamental Unit of life</i>	<ul style="list-style-type: none"> Students will be able to understand about cell. Students will be able to understand parts of cell like cell wall, nucleus and cell organelles like Plastids, Endoplasmic reticulum, Golgi apparatus, 	<p style="text-align: center;">Experiential learning on Cell</p> <p style="text-align: center;"><i>Steps in Experiential learning</i></p> <p>Teacher will ask students to go through the chapter- 5 & find new words/ key words.</p> <p>Teacher will ask everybody to contribute one word</p>	<p>Student will respond to teacher about the leave and microscope and begin their work.</p> <p>Turning pages of the chapter no.5 of Science book carefully</p> <p>Speaking one by one about the matter.</p>	14-23 April2016 & 16-17 June 2016. 11 days.

	Prokaryotic cell, Eukaryotic cell.	without repetition		
	Content objectives:	Teacher will call one student to write all words in black board.	Biju was called to write all words surrounding cell. They are asked to copy it in their science note book.	
	<p>Students will be able to understand definition of a cell.</p> <p>Students will be able to comprehend meaning cell wall, and structural organization of a cell.</p> <p>Students will be able to understand plasma membrane, nucleus, cytoplasm.</p> <p>Students will be able to understand cell organelles, prokaryotic cells, Eukaryotic cells, Endoplasmic reticulum, Golgi apparatus, Lysosomes, Mitochondria, Plastids, Vacuoles .</p>	<p>Teacher will ask students to divide themselves in groups of 5.</p> <p>Teacher will ask them to classify all words into sub headings.</p> <p>Teacher will ask them to work as a group on the selected sub topic.</p> <p>Each group will be given ten minutes of time for the presentation.</p> <p>Teacher will be writing all necessary points for post presentation discussion.</p> <p>Teacher will ask to prepare notes and complete textual exercises for concrete conceptualization.</p>	<p>After that student form groups randomly.</p> <p>Students will classify those collected words and give a suitable title to it.</p> <p>Students will prepare a master web chart.</p> <p>Each group will work on their subthemes under the strict supervision of teacher</p> <p>Students will formulate some activities for their final presentation.</p> <p>Students will</p>	

		Hints: Teacher will give hints students to use five teaching technique (silent sitting , prayer, storytelling, group singing, group activity) in their presentation.	search for the connection of values with their subtopic and topic as well.	
	Value Objectives			
	Students will be able to understand about the value of Team work, Cooperation, Discipline			
Chapter -6		Teacher will initiate the topic with a branch of tree in hand and ask students to begin the class with silent sitting.	Student will begin the class with silent sitting	
			Total time spent	440min.
Tissues	Instructional Objectives	Experiential learning on Tissue		
	Students will be able to understand about tissue.. Students will be able to comprehend the difference between a plant tissue and animal tissue. Students will be able to understand permanent tissues.	Teacher will ask students to go through the chapter-6 & find new words/ key words. Teacher will ask everybody to contribute one word without repetition. Teacher will call one student to write all words in black board. Teacher will ask	Student will respond to teacher about the branch of tree and begin their work. Turning pages of the chapter no.6 of Science book carefully Speaking one by one about the matter. Nitin was called to write all words surrounding tissue. They	18.07.16-30.07.16 10 days@ 40 min/class

		<p>students to divide themselves in groups of 5 .</p> <p>Teacher will ask them to classify all words into sub headings.</p>	<p>are asked to copy it in their science note book.</p> <p>After that student form groups randomly.</p> <p>Students will classify those collected words and give a suitable title to it.</p>	
	Content Objectives	Teacher will ask them to work as a group on the selected sub topic .	Students will prepare a master web chart.	
	<p>Students will be able to understand definition of tissue.</p> <p>Students will be able to comprehend plant tissue like meristematic and permanent tissue.</p> <p>Students will be able to understand simple tissues like Parenchyma, collenchyma and sclerenchyma.</p> <p>Students will be able to comprehend complex tissues like Xylem and phloem</p> <p>Students will be able to understand about animal tissues like Epithelial (squamous, cuboidal, columnar, ciliated and glandular),</p>	<p>Teacher will allot each group with ten minutes of time for the presentation.</p> <p>Teacher will be writing all necessary points for post presentation discussion.</p> <p>Teacher will ask to prepare notes and complete textual exercises for concrete conceptualization.</p> <p>Hints: Teacher will give hints students to use five teaching technique (silent</p>	<p>Each group will work on their subthemes under the strict supervision of teacher</p> <p>Students will formulate some activities for their final presentation.</p> <p>Students will search for the connection of</p>	

	connective(tendon, bone, adipose tissue, areolar, ligament, cartilage and blood), muscular(striated , unstriated and cardiac muscle tissue) and nervous tissues.	sitting, prayer, storytelling, group singing, group activity) in their presentation.	values with their subtopic and topic as well.	
	Value Objectives			
	Students will be able to understand about the value of Loyal to duty, Learning to live together, environmental ethics			
			Time spent	400min
Chapter 15	Instructional Objectives	Teacher will initiate the topic with a wheat, rice bowl in hand and ask students to begin the class with silent sitting	Student will begin the class with silent sitting	16-31stAugust 2016
Improvement in food Resources	Students will be able to understand about the importance of crops, its production and management.	Experiential learning on Crop. Teacher will ask students to go through the chapter & find new words/ key words . Teacher will ask everyone to contribute one word without repetition.	Student will respond to teacher about the wheat and rice bowl and begin their work. Turning pages of the chapter no.15 of Science book carefully Speaking one by one about the matter.	6days@ 40min/class
	Content Objectives	Teacher will call one student to write all words in black board.	Mayank was called to write all words surrounding Crop. They are asked to copy it in their	

			science note book.	
	<p>Students will be able to understand definition of crop.</p> <p>Students will be able to comprehend plant issues like crop variety improvement, Crop production management and crop protection management.</p> <p>Students will be able to understand the difference between manure and fertilizers.</p> <p>Students will be able to comprehend complex issues like irrigation and types of irrigation.</p> <p>Students will be able to understand about cropping patterns, storage of grains.</p> <p>Students will be able to comprehend about animal husbandry(Cattle farming, Poultry Farming, Egg and broiler production, bee keeping, Fish production)</p>	<p>Teacher will divided all students in groups of 5.</p> <p>Teacher will ask all students to classify all words into sub headings.</p> <p>Teacher will call students to work as a group on the selected sub topic .</p> <p>Teacher will give ten minutes of time for the presentation.</p> <p>Teacher will write all necessary points for post presentation discussion.</p> <p>Teacher will ask students to prepare notes and complete textual exercises for concrete conceptualization.</p> <p>Hints: Teacher will give hints to students to use five teaching technique (silent sitting, prayer, storytelling, group singing, group activity) in their presentation.</p>	<p>After that student form groups randomly.</p> <p>Students will classify those collected words and give a suitable title to it.</p> <p>Students will prepare a master web chart.</p> <p>Each group will work on their subthemes under the strict supervision of teacher</p> <p>Students will formulate some activities for their final presentation. Students will search for the connection of values with their subtopic and topic as well.</p>	
	Value Objectives			
	Students will be able to understand about the value of Equality, Dignity of labour, Compassion.			
			Total time spent	240min.

UNIT -III

TOPIC/SUB TOPIC	OBJECTIVES	TEACHER ACTION	STUDENT ACTION	TIME
Chapter 8	Instructional Objectives			40 min
<i>Motion</i>	Students will be able to understand motion and laws of motion. Students will be able to understand velocity, acceleration.	Teacher will initiate the topic with a coin in hand and ask students to begin the class with silent sitting.	Student will begin the class with silent sitting	
	Content objectives:			
	Students will be able to define motion, Uniform motion, non uniform motion, laws of motion and equations of motion. Students will be able to comprehend meaning of speed, velocity and acceleration. Students will be able to understand Uniform circular motion. Students will be able to understand graphical presentation of motion.	Experiential learning on Motion Steps involved in EL Teacher will ask students to go through the chapter & find new words/ key words. Teacher will ask everyone to contribute one word without repetition.	Student will respond to teacher about the moving coin and begin their work. Turning pages of the chapter no.8 of Science book carefully Speaking one by one about the matter	13 days@ 40min/class 18.6.16- 30.06.16. 1-2 July 2016.
	Value Objectives	Teacher will call one student to write all words in black board.	Taimur was called to write all words surrounding motion. They	

			are asked to copy it in their science note book.	
	Students will be able to understand about the value of Flexibility.	<p>Teacher will divide all students in groups of 5 .</p> <p>Teacher will ask them to classify all words into sub headings.</p> <p>Teacher will ask them to work as a group on the selected sub topic.</p> <p>Teacher will allot ten minutes of time to each group for the presentation.</p> <p>Teacher will be writing all necessary points for post presentation discussion on board.</p> <p>Teacher will ask students to prepare notes and complete textual exercises for concrete conceptualization.</p> <p>Hints: Teacher will give hints to students to use five teaching technique (silent sitting, prayer, storytelling, group singing, group activity) in their presentation.</p>	<p>After that student form groups randomly.</p> <p>Students will classify those collected words and give a suitable title to it.</p> <p>Students will prepare a master web chart.</p> <p>Each group will work on their subthemes under the strict supervision of teacher.</p> <p>Students will formulate some activities for their final presentation.</p> <p>Students will search for the connection of values with their subtopic and topic as well.</p>	
		Including one class test	Total	520 min

Chapter 9	Instructional objectives	Teacher will initiate the topic with a coin in hand and ask students to begin the class with silent sitting.	Student will begin the class with silent sitting	11days @40min/class
<i>Force and laws of motion</i>	Students will be able to understand force, laws of motion(1 st law, second law, third law of motion) with details.	Experiential learning on Force Teacher will ask students to go through the chapter & find new words/ key words. Teacher will ask all to contribute one word without repetition.	Student will respond to teacher about the moving coin and begin their work. Turning pages of the chapter no.9 of Science book carefully Speaking one by one about the matter	1.8.16-12.8.16
	Content objectives	Teacher will call one student to write all words on black board.	Rajesh was called to write all words surrounding force. They are asked to copy it in their science note book.	
	Students will be able to define Force, balanced force , unbalanced force, inertia. Students will be able to comprehend meaning inertia and first law of motion. Students will be able to understand second law and third law of motion. Students will be able to understand momentum and			

	conservation of momentum.			
	Value Objectives	Teacher will be divided in groups of 5.	After that student form groups randomly.	
	Students will be able to understand about the value of Discipline, Cooperation, Tolerance	<p>Teacher will ask them to classify all words into sub headings.</p> <p>Teacher will ask them to work as a group on the selected sub topic.</p> <p>Teacher will allot ten minutes of time for the presentation.</p> <p>Teacher will be writing all necessary points for post presentation discussion.</p> <p>Teacher will ask them to prepare notes & complete textual exercises for concrete conceptualization.</p> <p>Hints: Teacher will give hints to students to use five teaching technique (silent sitting, prayer, storytelling, group singing, group activity) in their presentation.</p>	<p>Students will classify those collected words and give a suitable title to it.</p> <p>Students will prepare a master web chart.</p> <p>Each group will work on their subthemes under the strict supervision of teacher.</p> <p>Students will formulate some activities for their final presentation.</p> <p>Students will search for the connection of values with their subtopic and topic as well.</p>	
			Total time	440min.
Chapter 10	Instructional Objectives	Teacher will initiate the topic with a	Student will begin the class	07 days

		tennis ball in hand and ask students to begin the class with silent sitting.	with silent sitting	
Gravitation	Student will be able to comprehend the role of gravity in our life.	Experiential learning on Gravitation Teacher will ask them to go through the chapter -10 & find new words/ key words. Teacher will ask everybody to contribute one word without repetition.	Student will respond to teacher about the moving coin and begin their work. Turning pages of the chapter no.10 of Science book carefully Speaking one by one about the matter	22-28 Aug.16
	Content objectives	Teacher will call one student to write all words in black board.	Sameer was called to write all words surrounding Gravitation. They are asked to copy it in their science note book.	
	Students will be able to define gravity and gravitation. Students will be able to comprehend universal law of gravitation. Students will be able to understand importance of gravitation. Students will be able to understand free	Teacher will divided the class into groups of 5. Teacher will ask them to classify all words into sub headings. Teacher will ask students to work as a group on the selected sub topic. Teacher will give ten minutes of time for the presentation to each group.	After that student form groups randomly. Students will classify those collected words and give a suitable title to it. Students will prepare a master web chart. Each group will work on their	

	fall and calculation of g.	<p>Teacher will be writing all necessary points for post presentation discussion.</p> <p>Teacher will ask students to prepare notes and complete textual exercises for concrete conceptualization.</p> <p>Hints: Teacher will give hints to students to use five teaching technique (silent sitting, prayer, storytelling, group singing, group activity) in their presentation.</p>	<p>subthemes under the strict supervision of teacher.</p> <p>Students will formulate some activities for their final presentation.</p> <p>Students will search for the connection of values with their subtopic and topic as well.</p>	
	Value Objectives			
	Students will be able to understand about the value of Discipline, spirit of enquiry.			
			Total time spent	280min
		REVISION ACTIVITY 1.9.16- 15.9.16		

Appendix IX

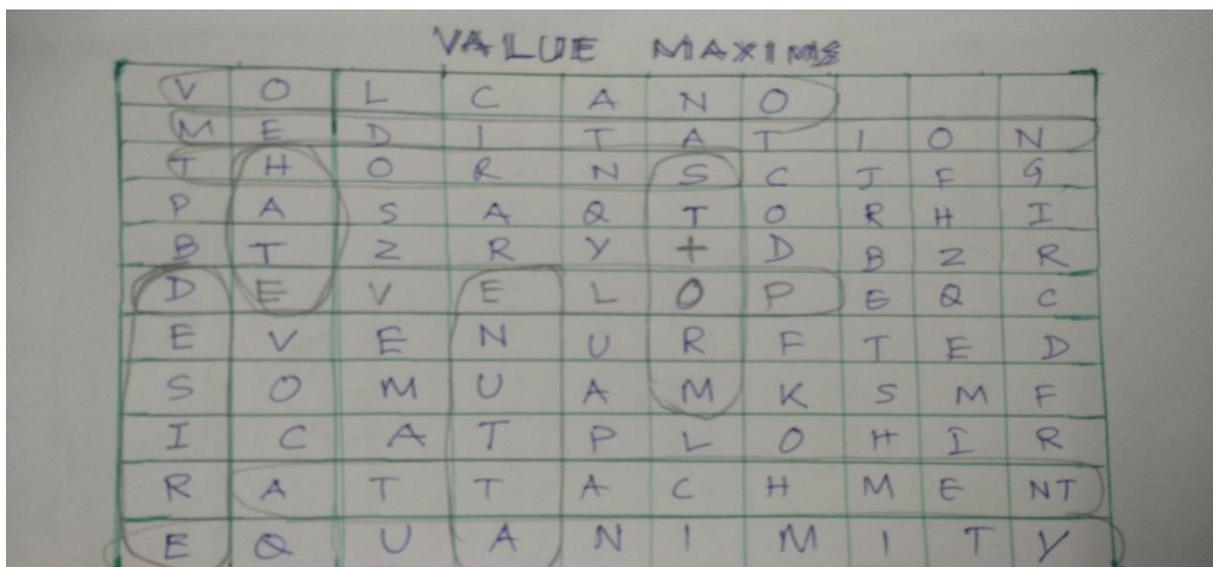
SAMPLE VALUE ACTIVITY

Value Maxims

Given below is an important value maxim. Contemplate on it and search the following words in the given word maze: **Thorn, hate, develop, desire, storm, whirlpool, attachment, avalanche, egoism, volcano, meditation, equanimity.**

Value to be inculcated:

Have no thorn of hate in your mind; develop love towards all. Desire is a storm, greed is a whirlpool, pride is a precipice, attachment is an avalanche, egoism is a volcano. Keep these things away so that when you recite the name of God or do meditation, they do not disturb the equanimity.



Compassion Activity

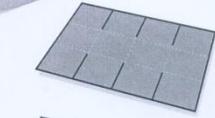
COMPASSION CUBE (Project, 25 minutes)

Use this activity to emphasize the five "I Wills."

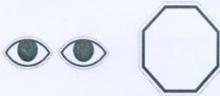
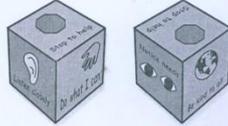
Print both pages of this activity. Make a cube by cutting the solid lines on the next page. Fold the cube as shown and secure the edges with tape.

Color the symbols on this page, cut them out, and tape the symbols to the top and sides of the cube. Label each symbol with its meaning.

Supplies: paper, markers, scissors, tape



1. Cut on solid lines, and fold dashed lines.
2. Fold over and tape.
3. Fold in ends and tape.
4. Label as shown.



■ Notice needs (eyes)

■ Stop to help (sign)



■ Listen closely (ear)

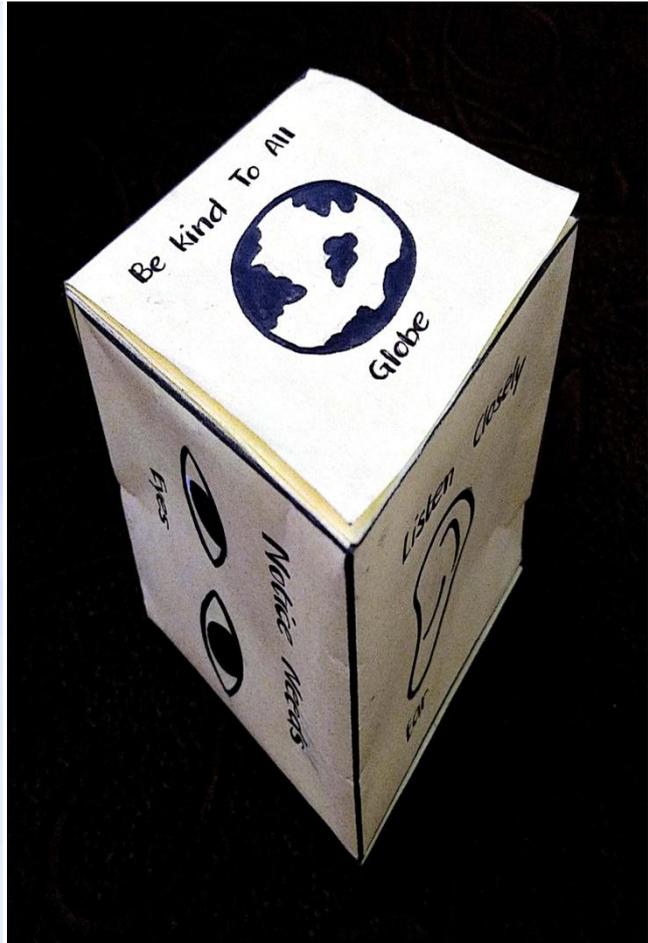
■ Do what I can (hand)

■ Be kind to all (globe)



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Compassion Activity

WAYS TO ENCOURAGE

Discuss different ways to encourage others and build healthy relationships.

Different people prefer different types of encouragement. Some feel most loved by a gift or an act of service. Others feel appreciated by kind words or a written note. Others enjoy spending quality time together.

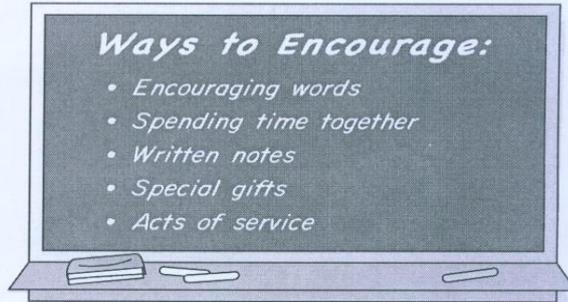
One way to determine how a person likes to receive appreciation is to look at how that person shows appreciation to others. For example, a mother who tends to give gifts probably enjoys receiving gifts. A son who tries to serve others will likely appreciate someone helping him. Some family members might like new clothes; others might want you to help fold the clothes.

Study how family members like to be appreciated. List the names of each person in your family, and try to match each family member with one or two of the "Ways to Encourage" listed on this page.

The next time someone needs encouragement, try doing what will mean the most.

Points to Ponder:

- Knowing how to communicate in different ways to different people will help you build healthy relationships. Instead of saying encouraging words to those who would rather receive acts of service, or giving gifts to those who prefer quality time, now you can encourage others in a "language" they will understand and appreciate.
- For more study on how people give and receive encouragement, consult *The Five Love Languages* by Gary Chapman.



Name:

Ways to Encourage:

<u>Brother</u>	<u>Encouraging words</u>
<u>Sister</u>	<u>Spending time together</u>
<u>Mother</u>	<u>Acts of service</u>
<u>Father</u>	<u>Acts of service</u>
<u>Grandmother</u>	<u>Spending time together</u>
<u>Grandfather</u>	<u>Spending time together</u>
_____	_____

Compassion Activity

LEND A HAND

Use the answer key to decode this quote from Edward Everett Hale.

Edward Everett Hale (1822–1909) founded the Lend A Hand Society in Boston, Massachusetts more than 120 years ago. This non-profit organization continues to provide financial assistance to families and individuals in need.

Answer Key:

A	B	C	D	E	F	G	H	I	J	K	L	M
☀	♻	♻	●	◇	◆	☼	☼	✓	■	★	☆	☼
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
□	✱	▲	▼	⊕	⊕	◐	⊕	♻	!	☼	☼	■

Quote:

L O O K U P A N D N O T D O W N ;
 ☆ ✱ ✱ ☆ ⊕ ▲ ☀ □ ● □ ✱ ◐ ● ✱ ! □

L O O K F O R W A R D A N D N O T B A C K ;
 ☆ ✱ ✱ ☆ ◆ ✱ ⊕ ! ☀ ⊕ ● ☀ □ ● □ ✱ ◐ ☀ ☀ ✱ ☆

L O O K O U T A N D N O T I N ;
 ☆ ✱ ✱ ☆ ✱ ⊕ ◐ ☀ □ ● □ ✱ ◐ ✓ □

L E N D A H A N D .
 ☆ ◇ □ ● ☀ ☼ ☀ □ ●

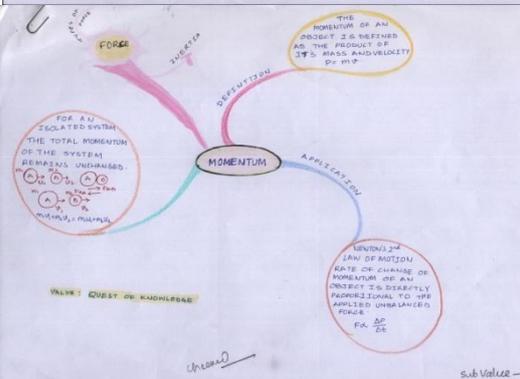
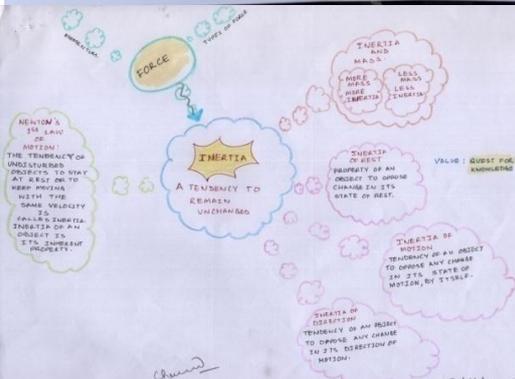
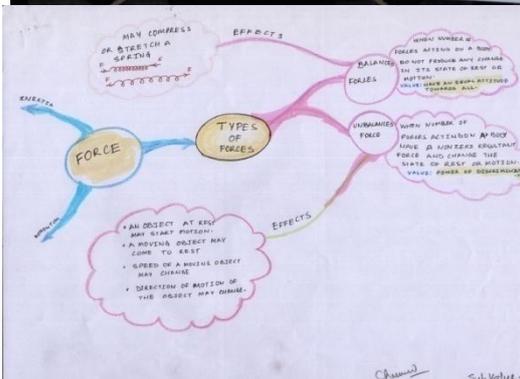
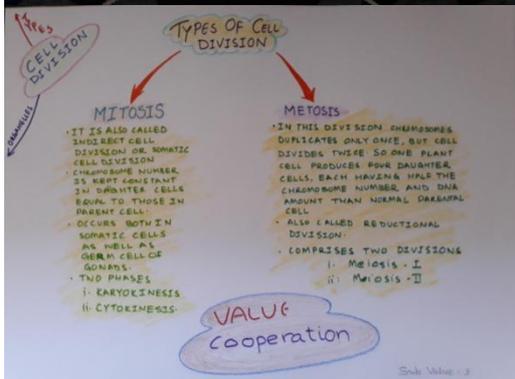
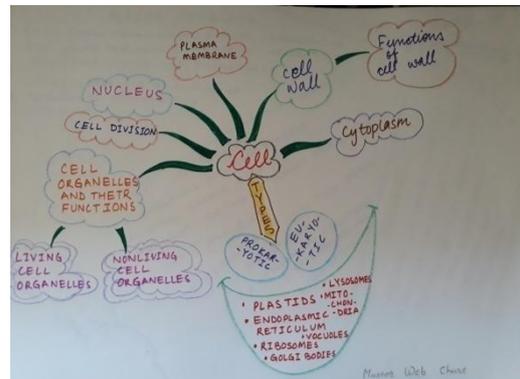
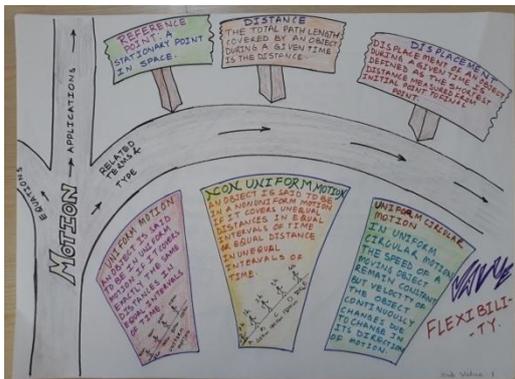
— Edward Everett Hale,
 Founder of the Lend A Hand Society

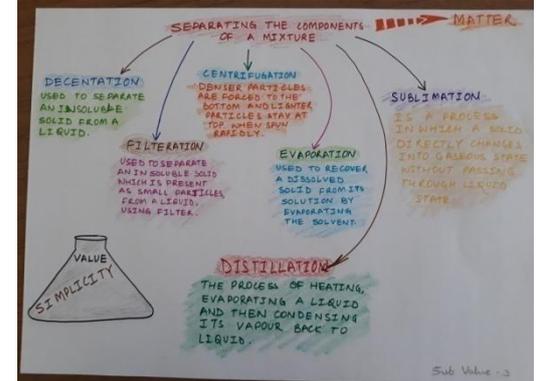
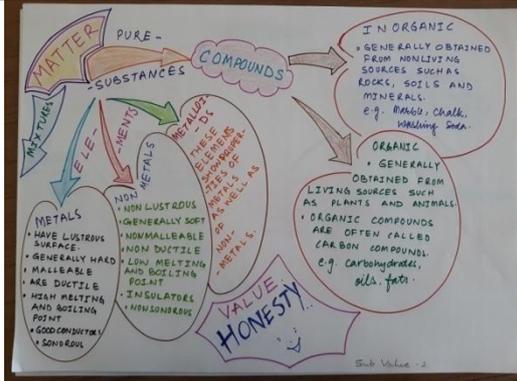
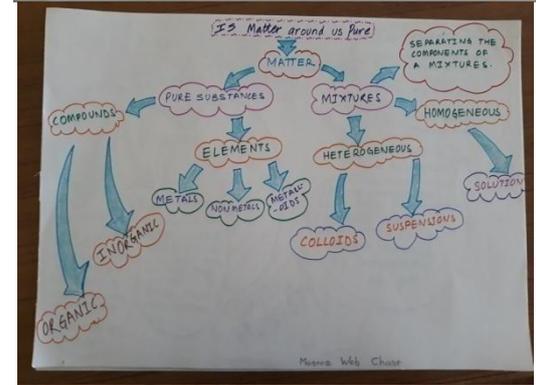
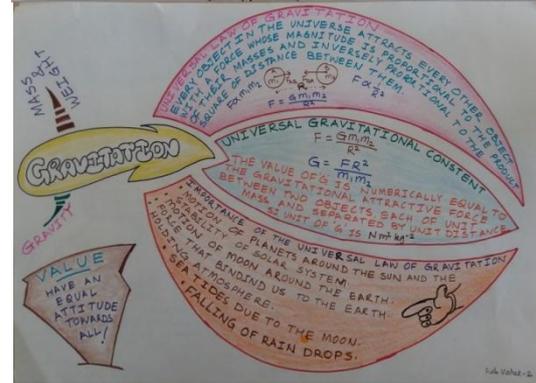
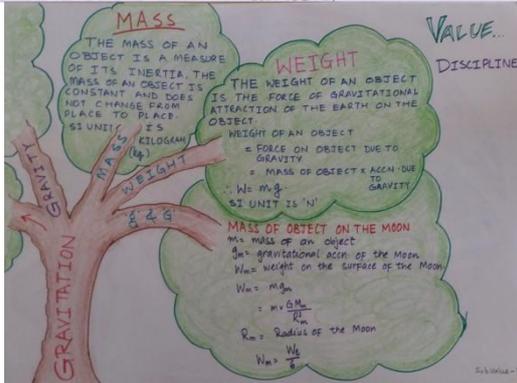
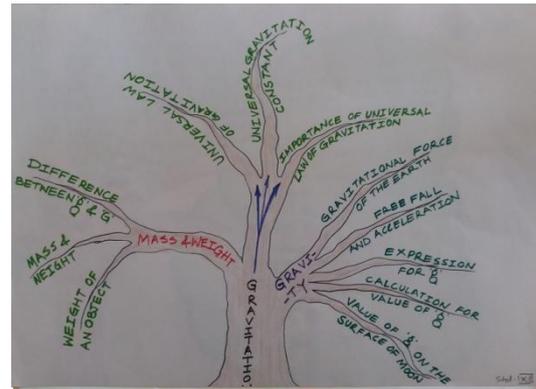
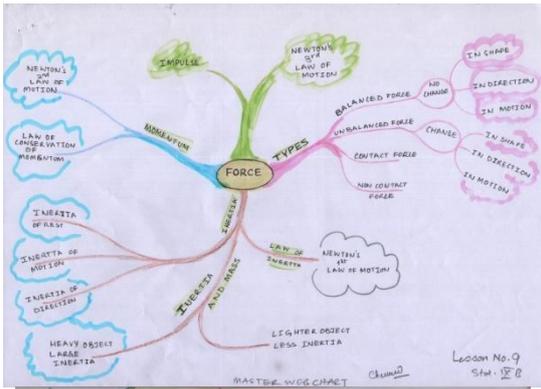


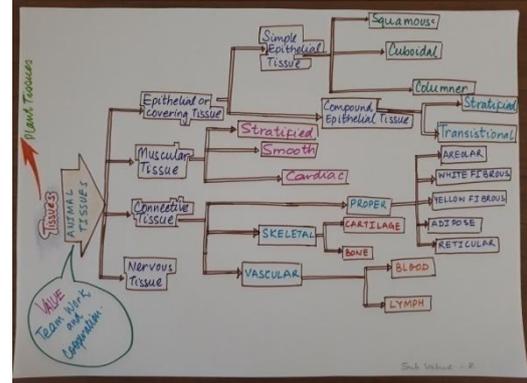
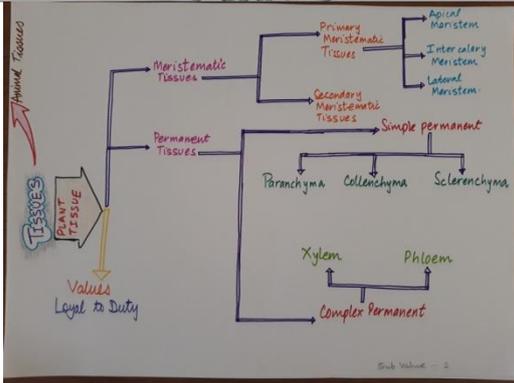
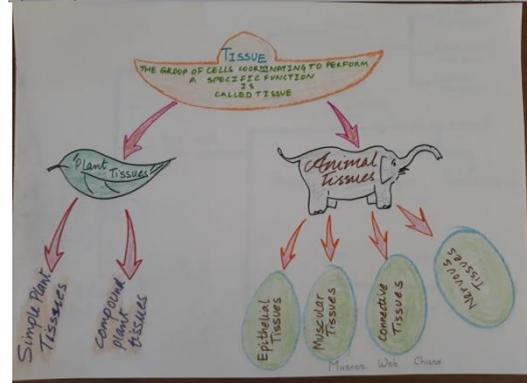
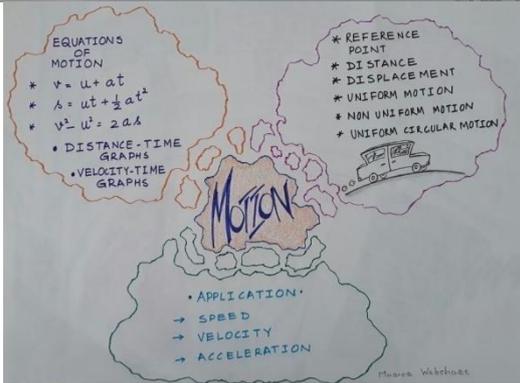
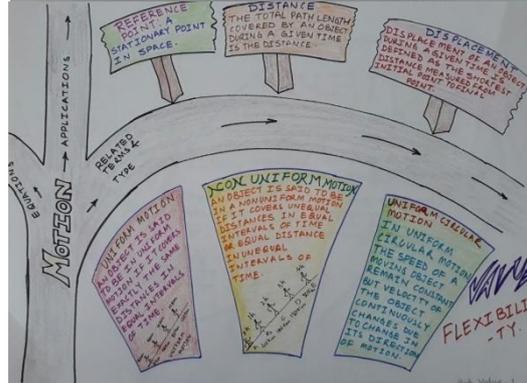
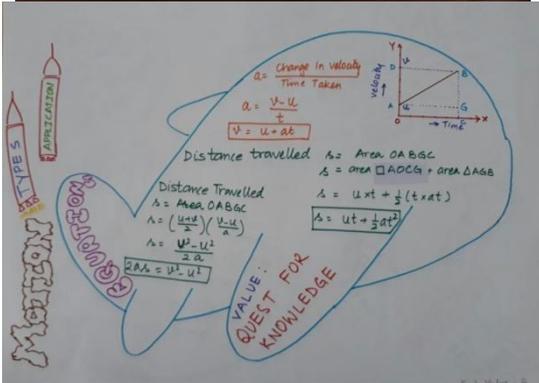
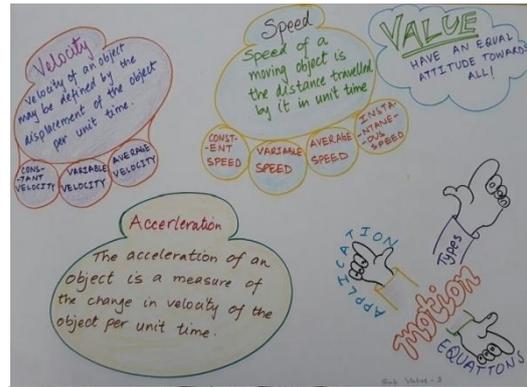
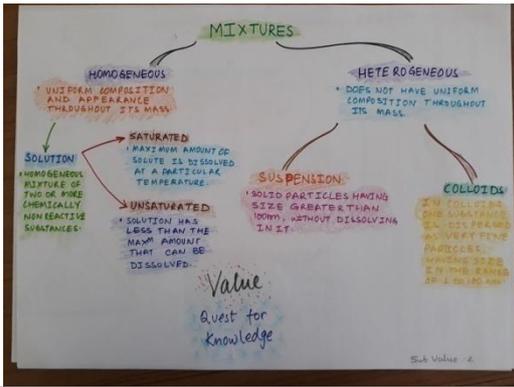
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Appendix X

WEB CHARTS OF EXPERIENTIAL LEARNING







Appendix XI

BLUE PRINT FOR ACHIEVEMENT TEST

Time: 1 Hour 30min.

Max .Marks: 50

SL.No	Typology of question	Very Short Answer (1Mark)	Short Answer (2 Marks)	Short Answer -II (2marks)	Total Mark	Weightage
1	Knowledge (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define or recite, information).	11	2(+1)	00	15	30%
2	Understanding (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	7(+1)	2	00	11 (+1)	22 %
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, use given content to interpret a situation, provide an example, or solve a problem)	6(+1)	2	00	10 (+1)	20
4	High Order Thinking Skills (Analysis & Synthesis - Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	2	2(+1)	00	6 (+2)	12%
5	Evaluative (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	2	2	00	6	12%
6	Value based question	00	11(+2)	00		04
	Total	28	22	00	50	100%

Appendix XII

PUBLICATION

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Conceptual Understanding about Teaching Science for Value Inculcation at Secondary Level: A Researchers Paradigm

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***Prof. Ashutosh Biswal*

Introduction

"The most incomprehensible thing about the world is that it is comprehensible."

—Albert Einstein.

Science is like a game for understanding the universe. The game is played by special rule called the scientific method i.e asking question, gathering information about the question, forming the hypothesis, draw the conclusion, telling others about what you found out & applying the findings for addressing the pressing needs of humanity in general and society in particular. The vertiginous scientific and technological advances have a special force in developing the knowledge society, permeating our daily life and raising challenges for citizens and in the world of work (Roberts, 2007). Consequently, scientific and technological literacy *for all* constitutes an essential purpose for scientific and technological education, especially in basic education systems. Paradoxically we are the witnesses of science decline in the education context. On worldwide scale and mainly in the West, there is a worrying trend of declining student interested in science studies and science education. Statistics indicate that the majority of students opt out of scientific careers (OECD 2006).

Studies such as TIMSS and PISA show how Indian students performed poorly as compared to their global peers which opens the window of opportunity for science educators to look beyond conventional way of teaching.

Further deteriorating value system & growing human disconnect is a cause of major concern world over in recent times. The school being the child's first and foremost experience of socialization, is equally placed to influence the child in a positive way, inculcate the desired values that the society collectively cherishes and an impact an

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educationist aimed at the holistic development of each child. Thus it is up to the school to determine how effectively the larger goals of education are met through the entire process of schooling. Science is one of the major subject at school level seems inevitable for schools to inculcate desired impression in learners mind for the welfare of the society & the learner as well. Hence there should be a strong connect between our science teaching learning activity with value inculcation for which schools need to delve into so as to make learning a fruitful activity.

School Science Education

Ideally Science education is imparted through actual scientific activities i.e experimentation & organization of firsthand knowledge obtained through experiment. It is heavily criticized that science education in the Indian schools is predominantly bookish and theoretical. Science disciplines are intended to develop higher order mental abilities. Even in the best schools, science education is carried out on traditional lines, measuring mostly the students ability to recall and comprehend the imparted information (Suresh et al,2012).

Science education in India has a direct bearing on our national goals, aspirations and missions. It has undergone several changes, both in approach and content, during the last sixty years but we are still lagging behind major scientific breakthroughs in global arena. Generally rote learning is dominated at our schools and as a result of this students memorize rather than meaningfully understand what they learn at school. Inquiry in science teaching has taken a back seat & direct instruction by teacher has taken precedence in all our teaching learning process. Science is considered in our school as an activity of transmitting information which undermines the very essence of it i.e science comprised of both a process and a product. The process of science are required for learning science. For instance observation, classification, communication, measurement, estimation, prediction and inference etc are the vital component of science process skills which stimulate the spirit of inquiry in the learner.

In the changing context of globalization & pattern of learning in science education, the need for a more systematic approach to supporting student learning becomes ever more important. A simple transmission model of teaching is even less adequate to meet the needs of students than it was in the past. Science education no longer operates entirely on a teacher-centred model of teaching and is shifting, albeit slowly and hesitantly, towards a more student-centred mode.

Research Questions

- What are the major purpose in teaching science at secondary level?
- Is science inquiry method is better than direct instruction by the teacher for understanding the purpose of studying science?

- How teaching science is correlated with inculcation of values?
- What changes & what stays with students those who are taught science with values?
- How current science teaching at secondary level can be better designed to unlock the values in science curriculum?

Review of Related Literature

Allchin (2012) in his introductory chapter on "Values in science: an introduction" in *Values in Science and in Science Education*, in *International Handbook of Science Education* described that Values intersect with science in three primary ways. First, there are values, particularly epistemic values, which guide scientific research itself. Second, the scientific enterprise is always embedded in some particular culture and values enter science through its individual practitioners, whether consciously or not. Third, values emerge from science, both as a product and process, and may be redistributed more broadly in the culture or society. Also, scientific discoveries may pose new social challenges about values, though the values themselves may be conventional.

Tan(1997) studied on "Moral values and science teaching: A Malaysian School curriculum initiative" and found that Malaysian Schools have introduced a set of noble values to be taught as a subject called moral education while at the same the time expecting all subjects including the sciences to actively inculcate those noble values in their lessons. Values related to science included are studies from science education curriculums, studies by scientists and philosophers of science, feminist and Indian critics of science. In 1979 Malaysian govt. revised Primary & secondary curriculum and introduced 16 values such as: Compassion, self reliance, Humility, Respect, Love, Justice, Freedom, Courage, Physical & mental cleanliness, Honesty, Diligence, Co-operation, Moderation, Gratitude, Rationality and public spiritedness.

The four major categories of value sets framed in Moral education were (a) epistemological values(includes *accuracy, consistency, simplicity, scope, fruitfulness*) (b) supporting values (includes self reliance, Respect, Justice, Freedom, Courage, Physical & mental cleanliness, Honesty, Co-operation, Rationality and public spiritedness), (c) societal & moral values(Compassion, Humility, Respect, Love, Physical & mental cleanliness, Moderation), (d) power oriented values. The author urged for compassionate scientists and Malaysian educators to find the ways to raise the awareness of values in science.

American Education Policies commission(as cited by Thelen, 1987,P.204) identified seven values underlying science are: Longing to know & understand, questioning of all things, Search for data & their meaning, respect of logic, demand for verification, consideration of premise, consideration of consequences. Bronoswki(1956) wrote on

science and human values clearly establishing a positive relationship between science & values. He further said that science practices the habit of truth.

Why Teaching Science?

Science is objective, while values are subjective. The pursuit of science as an activity is itself an implicit endorsement of the value of developing knowledge of the material world. Just as values of a society can enter science, so, too, can values from the scientific enterprise percolate through society. The most dramatic redistribution of values may be the values of science itself. Therefore science and value are the two inseparable side of same coin. We cannot imagine one at the cost of other & it has huge ramification on our society at large. At school we must ensure such delicate correlation for their mutual coexistence. The major purpose of teaching science in our schools are illustrated in following fig.1.1

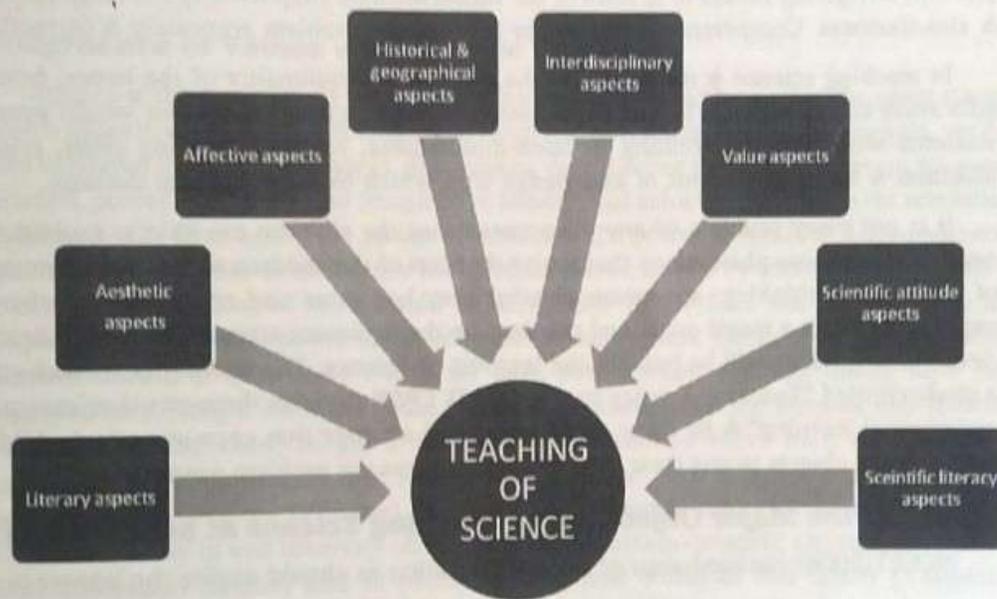


Figure 1.1: Teaching of Science at school

Why Value Education ?

German Philosopher Friedrich Nietzcho is said to have used the word values first in 1880. Since then the concept of values had undergone radical change. John Dewey defined value as: The value means primarily to prize, the esteem, to appraise, to estimate, it means the act of cherishing something, holding it & also the act of passing judgment upon the nature & amount of values as compared with something else. Similarly Allport (1950), (as

cited by Saxena et al 2012, P-5) defined values as: Anything that yields a satisfaction (or provides a means o for such satisfaction) is designated as values. Values can be classified as many ways. Human Values, Scientific Values, Social Values, Professional conduct, Moral Values etc. It is an established fact that certain values changes with generations and situation adaptability is the key for adopting values. In view of changing geo political, societal, ever dynamic digital society & changing landscape of learning in science, taking a fresh look to value inculcation process is of paramount importance today.

Methods Employed in Science Teaching

Baez(1982) suggested 4Cs i.e Curiosity, Creativity, Competence & Compassion are the bedrock of science teaching. Curiosity is the source of discovery, it is the spark that ignites the research. Creativity is the act of invention, of making knowledge in science of seeing patterns and giving names to it. Both of the values must be supported by the value patience & steadfastness. Competence is the ability to solve the problem accurately & correctly.

In teaching science & moral values the centrality is rationality of the issues. Science education can contribute to moral education because science education would provide students with required training in open-mindedness, rational thinking skills, critical attitudes & acceptable forms of knowledge with which to make rational decision.

It is not every problem or any phenomena that the children are able to explain. We need to select those phenomena that are on the level of the children so that they, by means of actions and thinking, are aware of what they had done and try to give a coherent explanation – not a magic one -, and can develop the necessary attitudes to the intellectual development which will be basic to the learning of Science. The researcher is conducting a study entitled “Teaching Science to standard IX CBSE students through value integrated experiential learning” & he favor an experimental attitude that encourage each child to act upon the objects to test their hypotheses and solve the problem proposed.

What Are the Major Objectives of Teaching Science at School Level?

NCERT(2006) outlined aims of science education as should enable the learner to:

- know the facts and principles of science and its applications, consistent with the stage of cognitive development.
- acquire the skills and understand the methods and processes that lead to generation and validation of scientific knowledge,
- develop a historical and developmental perspective of science and to enable her to view science as a social enterprise,
- relate to the environment (natural environment, artifacts and people), local as well as global, and appreciate the issues at the interface of science, technology and society.

- acquire the requisite theoretical knowledge and practical technological skills to enter the world of work.
- nurture the natural curiosity, aesthetic sense and creativity in science and technology.
- imbibe the values of honesty, integrity, cooperation, concern for life and preservation of environment.
- cultivate 'scientific temper'-objectivity, critical thinking and freedom from fear and prejudice.

Science does not prove nor disprove religious or spiritual beliefs, nor does it replace either. Science provides a method of understanding the *natural* world only. Science cannot make moral or aesthetic judgments. Science is aimed to embolden rational thinking faculty of all learners.

Congruence of Values with Science Teaching

Science is the discovery of the truth, such a discovery is led by a scientific quest starting with a hypothesis, pursued with logic and modeled with scientific tools of analysis, verified and validated by experimentation. Spirituality, on the other hand, one relies on his power of mind, power of intuitive and imaginative faculty, and achieves realization via revelations (Mishra,2012) Here again, the power of mind and the power of intuitive and imaginative faculty is synonymous to an inquiry led by mind waves, driven by curiosity and probed by a careful examination of what could be acceptable to the Self, the Eternal, Pure and Unperturbed being that power mind, body and consciousness. Unlike west where scientific pursuits devoid of spirituality but in the east, both science, and spirituality have been regarded as serving a common cause, which is to understand the purpose and meaning of existence and then, to get a renewed inspiration to serve man and nature by unconditional commitment and fullest of dedication. It is this understanding of the commonness of Science (Vijnana) and Spirituality (Jnana) that enabled the Vedic seers to discover unity in vast diversity (Ekam Sat, Vipra BahudaVadanti), champion a cause of truth (Satyamev Jayate) and to proclaim the whole world as one family (Vasudheva Kutumbakam) right in the Vedic times several thousand years ago.

How to Explore Values in Science

When educators succeed in creating a community of learners, in which students see their goal as one of contributing to a community understanding of scientific problems, students can reap cognitive, social, and affective benefits. For example, student learning from hands-on investigation is dramatically improved when they also present their ideas and arguments about investigations to their peers (Crawford, Krajcik, and Marx, 1999; Krajcik et al., 1998).

The future of mankind lies in discovering the vital harmony between Science and Spirituality, so that the modern scientific man could go beyond *jnana* to the horizons of *prajnana*. Then, the people of infinite capabilities and specialized skills shall adorn the scientific and human values and shall engage in relentless pursuit of human excellence, creating heaven on earth and living in perfect harmony with nature.

Our Study

(Value integrated experiential learning approach)

The value integrated experiential learning method to teach science in std. IX is promising a paradigm shift from learning secondary science as a body of knowledge to promoting the educational skills to be acquired through the subject of Science and it attempts to gain 'education through science' simply by gaining knowledge are shown to be unsuccessful, the approach needs to shift from one boundary like subject chapter headings, or sections to one which more closely relates to the issues and concern within society. Also, to ensure relevance of the conceptual learning within Science for social issues, there needs to be a shift from an introduction of the issue followed by the conceptual learning towards the interacting with the issue in a social context and then, as an important step, making use of the conceptual Science that is being learned to arrive at a socio-scientific decision(Holbrook,2005).

The other aspect of our VEL is convergence into the theme of Continuous & Comprehensive evaluation (CCE) in a way that assessment of learners in the beginning of instruction, during the instructional processes and assessment of performance done at the end of unit/term using multiple techniques & all aspects of learning, i.e., curricular areas, personal and social qualities, interests, *attitudes*, *values* need are assessed as well, as proposed by CBSE in all its 14000+ odd school world over.

What Next ?

The spirit of inquiry, the freedom of intellectual activity, the multifaceted culture for overall development of personality of students are all important elements connected with an academic institution. The ecosystem of any knowledge organization should be focused on spaces where academicians and students can come together can generate ideas, can debate on issue and go back to their class rooms or laboratories to try out the ideas which they have just discussed in open spaces. Usually, canteens and cafeteria are such places. However, the ecosystem should create and ensure that such spaces exist in an academic institution.(Dhande, 2016).

Conclusion

Science and education are inseparable twins for our country, its economic prowess in global arena, knowledge society of 21st century. Education prepares an individual to be

an enlightened human being where as science enriches quality of worldly life of each individual. Therefore synergy between education and science assumes a significant place for all of us and school happens to be the crucible for such synthesis between science and education. School science offers a wealth of ennobling experiences that a serious engagement with science can leave a lasting impact and in rare cases impact a behavioural change in students. Thus a well designed science curriculum that provides a rich practical examples when transacted effectively could become a life skill programme for students. Science teacher who understands the multifaceted relationship between value and science can guide students effectively in fully appreciating the nature of science.

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Holistic Vision

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Reinstilling Moral Values In Society: Who Will Bell The Cat?

-Bibhuti Narayan Biswal

The world today is in turmoil and facing unprecedented manmade catastrophe. It looks like evil forces are spreading their tentacles in every nook and corner of our society in each passing day. On a cursory glance one can conclude that man is in mad rush for accumulating more money by adopting foul means like corruption, crime, etc., compromising on virtues and age old ethics. Satvik attitude tending towards divinity is declining at an alarming rate and in its place Rajasik & Tamasik qualities tending to ego-centric obsession are gaining their roots. Faith in fellow begins? Even brothers become a casualty. Is this called a human civilization at all? Why the creator brought us to this beautiful earth which still remains to ponder over by each one of us.

Western philosophy emphasizes 'the struggle for existence and the survival of the fittest'. If it is so, qualities like: co-operation and fellow – feelings at the village, town, and community or country level are not a part of the human DNA which forms the basis of eastern way of living. In order to understand the philosophy we have to understand the system of education. Today in our educational institutions, the focus is centered on preparing the students for merely answering questions in the examinations and not on developing their instinctual abilities and talents (Menon, 2016). There is an urgent need to overhaul the existing education system, including the emphasis on value education, pattern of examinations, in such a way that the process helps hone each learner's talents and maximize human potential which can later will help in building a peaceful society. The author conducted a study on "Teaching science to standard IX CBSE students through value integrated experiential learning". Selected twenty values such as : equality, co-operation, simplicity, dignity of labour, determination, honesty, common goal, Curiosity, Quest for knowledge, Discrimination, discipline, Environmental ethics, Spirit

of inquiry, Gratitude, Compassion, Flexibility, Tolerance, loyalty to duty , team work and learning to live together are emphasized in the research study. Experiential learning method was adopted by the researcher and it was found acceptable by learners. Students perceived above values as essential values and that should be present in our modern society. The author concludes by suggesting that Indian schools and higher educational institutions should take a lead in this front so as to bring the lost glory for India.

Key words: Value education, Discrimination

Introduction

According to Irish Poet W. B. Yeats: 'Education is not filling the bucket, but lighting a fire'. "Education must aim at the development of moral, spiritual and ethical values and we should seek them in our own heritage as well as in other cultures and civilizations. It should be such that Indians do not lose sight of their rich heritage – their thought must be rooted to the ideals set forth in the great writings and works of our sages, poets and philosophers, the noble goals and high values set forth in our precious culture must be adhered to"- Ravindranath Tagore.

In 1750 AD the per capita incomes of what are called developed countries and underdeveloped countries were equal. In 1930, the developed countries' per capita incomes were four times higher. By 1980, they were forty times higher. The trend continues. In 1989, the richest fifth of the world's population consumed 83 percent of the global GNP, and the poorest fifth consumed only 1.4 per cent. By 1991, figures moved to 84 per cent for the top fifth and down to 0.9 per cent for bottom fifth (Chakraborty, 2016). This is considered as an orchestrated exploitation of people and resources to create an unsustainable planet. To make a sustainable world, education is the key instrument as education fosters sustainable habit called: Learning to know, learning to be, learning to live together, learning to do and learning to transform oneself & society. To make it possible we have to think of an out-of-the-box way i. e. we need to conceive an education process that is both holistic and

integrative in approach wherein the learner truly experience the art of being fully human, instead of learning it merely as an idea and/or ideal. Thus 'learning to be' seems pivotal to our education system. In this domain the stress is from content to process based, values- to valuer-focused and teacher to student-centered orientation where there is an interaction within the individual learner (and educator) and between each other occurs. The valuing process (the learners look inward to their inner self and to examine how the various systems of which they are a part, have had an influence on their development of values) therefore, necessitates experiential learning (UNESCO-APNIEVE Sourcebook-2, 2002).

The researcher believe that the human person's individual and social development is anchored on twentycore values such as : equality, co-operation, simplicity, dignity of labour, determination, honesty, common goal, curiosity, quest for knowledge, discrimination, discipline, environmental ethics, spirit of inquiry, gratitude, compassion, flexibility, tolerance, loyalty to duty , team workand learning to live together . All these values converge around the central value of total human development.

Paradise on the Earth

The guiding principle for the entire world is that there is plenty of natural resources, knowledge, information and wisdom to make earth a virtual paradise free of hunger, poverty, disease and a peaceful place to live in. Is it possible in this 21st century at all? There is stark contrasting scenario wherein a section of population of the world are reeling under abject poverty, poor health & dismal quality of life. On the other hand handful of people are enjoying majority of available resources in the name of Physical comfort and luxury. There are 80% people living on 20% resources and 20% people enjoy 80% resources of earth which has created serious imbalance due to which there is strong divisions in our society in the form of naxalism, extremism, terrorism, hate campaigns, religious extremism etc. The paradise on the earth has been converted into strategic hell over few decades which are a matter of serious

concern. Further, UN Conference on Environment and development (1992) identified education as an essential condition for promoting peace and sustainable development. Therefore humane education can only be an effective tool to combat the artificial menace.

Science of Value Inculcation

The National Curriculum Framework (NCF), 2005 strongly advocates values like cooperation, respect for human rights, tolerance, justice, responsible citizenship, diversity, reverence towards democracy and peaceful conflict resolution. Education for values will further equip students to make sensible choices on situations based on values of equality, integrity, democracy, freedom, and human rights. According to Srinivasan (2011) listed the guiding values for professional excellence:

1. Honesty and Transparency,
2. Knowledge and Competence,
3. Innovation,
4. Quality and
5. The Human Face.

They have to be predominantly pragmatic and not moralistic.

Quisumbing (1999) proposes a four-step learning values process i. e.

(Conceptual Level – Knowing & Understanding, Affective level- Valuing & Acting).

Knowing: Basically introduces specific values that are to be the subject area to look into and examine. For instance: How these values affect the self and others, our behaviours, culture, history, country is suggested for the learners to consider.

Understanding: Knowledge could be easily explained by the educator and in turn quickly memorized by the learners. Concepts that are made concrete

for the learners could be grasped more fully and easily by them.

Valuing. It guarantees that the value concepts are filtered through one's experiences and reflections and are eventually affirmed in the affective dimension i. e. chosen, prized and acted upon. The additional benefit of this step is the appreciation, acceptance and respect of both one's own value system and those of others.

Acting: In this step the action is expressed in improved communication skills, better decision-making, non-violent conflict resolution etc. : the value concepts find their way into our behaviours. The learning cycle is depicted as under in fig. 1.

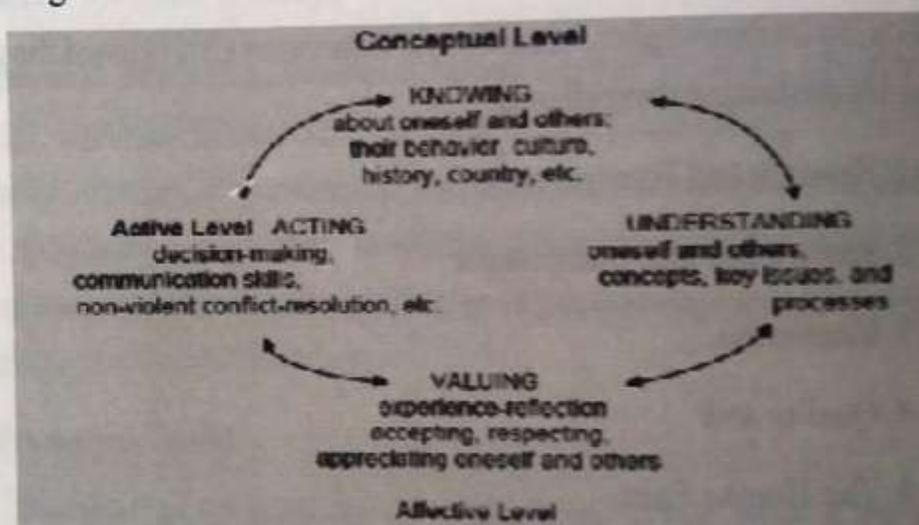


Figure 1: Quisumbing Learning cycle

Our 6 step experiential learning model (equivalent to 6E model) was used in the study which is described as under:

Silent sitting	↔	<i>Enable</i>
Topic initiation	↔	<i>Engage</i>
Radiant thinking	↔	<i>Explore</i>
Mind Mapping & web charting	↔	<i>Elaborate</i>
Group Activity	↔	<i>Explain</i>
Presentation	↔	<i>Evaluate</i>

Through these steps the cognitive domain (Head), the affective domain (Heart), and the psychomotor domain (Hand) are intrinsically involved which enables the learner to experience the beauty of science for lifetime. Value inculcation is reflected through their changing behavior and attitude.

Values for Social Cohesion & Integrated Society

We live in a time when our understanding of the role of the teacher and the power of Values Education are coalescing. No longer is Values Education on the periphery of a curriculum that enshrines the central roles to be played by the teacher and the school in our society. It is at the very heart of these roles (Mehta, 2016). The Executive Summary in the Final Report restated the positions of the nineteenth century charters of public education in asserting that Values Education "... refers to any explicit and/or implicit school-based activity to promote student understanding and knowledge of values, and to inculcate the skills and dispositions of students so they can enact particular values as individuals and as members of the wider community". (DEST, 2003:2). Thus for a prosperous society value education forms the bedrock of our education system.

The present study "Teaching science to standard IX CBSE students through value integrated experiential learning" is one such step in that direction. The study stressed upon inculcation of twenty values through the subject of science. They are discussed as follows.

- a. **Co-operation:** To be helpful to others, to accommodate every one's view in a given situation, add value to any collective views and task accomplishment, working together without personal ego, help without any hope, to help or share burden to relax others, help during difficult times.
- b. **Equality:** Treating others by looking towards their due, gender neutral attitude, caste – creed – colour neutral feelings in heart, no partiality towards anybody, no discrimination among group members working in a team, constitutional value, no superior feelings among group

members.

- c. **Simplicity:** Live in natural way no show-off to others, following principle of natural call of life, not adhering to fashion, simple thinking and living, attitude to accept the self, not living for others.
- d. **Dignity of labour:** Respecting all people irrespective of their duties/jobs, respect for all occupations/professions, positive attitude towards physical work and mental work, no job is thankless.
- e. **Determination:** Strong will to achieve something, firmness of purpose, boldness in decision, serious intention.
- f. **Honesty:** Devoid of corrupt behaviour, act truthfully; Think positively, thankful to self, refraining from lying.
- g. **Common goal:** Achieving public goal, working together without self-interest, be a part of social goal, working with winning spirit, shared goals by all, promoting national integration.
- h. **Curiosity:** Self interest to know, of inquisitive in nature, spirit of asking question to self and others, to know something new, native to explore new things.
- i. **Quest for knowledge:** Exploring new knowledge/ideas, through investigation about anything, to establish the truth, passionate to understand the cause of anything, active partner in learning process, a noble goal.
- j. **Discrimination:** Recognize difference, experimenting with self to arrive at logical conclusion, pattern of behaviour.
- k. **Discipline:** Strict follower of rule, self awareness about the work/decision, net behaviour, to train/control.
- l. **Environmental Ethics:** Respect for the environment, Understanding nature's principle/laws, like to save environment, love for nature, a person works to solve environmental problems.

- m. **Spirit of Enquiry:** Inquisitiveness, arguing with the self or the system in work, how things work.
- n. **Gratitude:** Appreciating good work done to us by somebody, being grateful, thankful to others, deeply thankful to others for their help.
- o. **Compassion:** Feeling sympathetic for others, to help somebody, showing kindness to others, sympathizing deeply.
- p. **Flexibility:** Working happily with in all situations, adaptability to adaptive to any circumstances easily persuaded.
- q. **Tolerance:** Ability to develop deep understanding about any problem/ situation, to give a thought to homebodies work, recognizing other religion, the ability to endure.
- r. **Loyal to duty:** Sincere to ones duty/ Job. Passionate about the work, faithful adherence to a cause, allegiance to ones duty.
- s. **Team work:** Synergy to work for the goal, unity in achieving targets. Work to win, coordinated efforts.
- t. **Learning to live together:** Assisting others to uphold living spirit, living in a joint family, live and let live, much knowledge in a socially acceptable norms.

Who will bell the cat?

Channels of Change

Eastern philosophical perspective emphasizes a 'means is more important than the end' that means 'if we are able to get the process right then we can forget about the results'. Therefore the priority of our education should be on means (the process aspect) not the end (Product aspect). Major institutions where process aspects needs to be taken care of are discussed below.

1. School

School is the crucible in which the basic value practices are crystallized

in a very careful means. Values are woven in every activity of the school and also in every subject being taught. School environment and academic climate must be so modified that it provides rich experience to the children. The textbook material should be correlated with learning of values by identifying areas in which the desired values may be promoted. As the late Haim G. Ginott, renowned child psychologist once said: "To reach a child's mind, a teacher must capture his heart. Only if a child feels right can he think right (Lovat, 2006).

Our experience:

In the process of experiential learning the learners realize their ability to work towards personal integration, wholeness and a sense of harmony within. This means that the values they profess in the cognitive level are filtered down to the affective as well as the behavioural level, thereby making them authentic persons who are true to themselves and becoming fully human. The whole learning experience heighten the learner's self-awareness, which eventually also leads to an increase in self-identity and self-direction; one becomes more fully empowered to take on the role and responsibility of influencing the immediate community around and the promotion of human dignity in all aspects of life. Here the educator simply provides the learning opportunity and atmosphere from which genuine exploration, expression and discovery may freely occur. In the end, learners act on the values that they consciously choose and own.

2. Institute of Higher Education

Quality Higher education is the best instrument of growth and development of the society. The growing recognition of the importance of ethics and values especially in management and education is a promising trend in the current streams of thought. However, the concept of values can be viewed at various angles and different perspectives. Significant changes have happened in Higher Education because of Globalization, private participation and technological applications (Kaur, 2016). Since we are in transition phase from

agriculture based economy to knowledge based and skill oriented society with emphasis on service sector, stringent value system embedded in Higher Education Institutions can sustain such timely transition.

3. Role of Spiritual Society

Spirituality raises the character of each person to its full value and brings it to its maximum expression. Also it helps us to purify, intensify, glorify and perfect what is in us. The present society works on free play of our shadaripus (six internal enemies – lust, greed, anger, delusion, vanity, envy etc.) which promotes grabbing tendency rather than giving (Chakraborty, 2016). It has been reported that sometime in March 2008 the Vatican had to add seven more ‘cardinal sins’ namely drug pushing, obscene richness, environmental pollution, genetic manipulation, carrying out experiments on humans, causing social injustice and causing poverty. This reflects the manifestation of Tamashik & Rajashik Qualities. But the spirituality says Love all, Serve all, brings in us Satwik quality. Thus societies like ICSSR, ICPR, Divine life society, Ramakrishna Mission, Institute of Sathya Sai Education (Mumbai), Sri Ramcandra Mission etc must work in tandem to restore values in our society which must be their first priority.

4. Interfaith Dialogues

More bloodshed has taken place in the name of religion than of any other ideological differences. Yet the irony is that each world religion, without exceptions, claims to propagate the philosophy of peace, Non violence and mutual cooperation (Venkataraman, 2009). In academics we are more concerned with how religions either promote values in society leading therebyto social benefits, or polarize it sharply, resulting, in extreme cases, not to riots but even armed conflicts, war, and lately terrorism. It is the part of all religious institutions & academics to promote the former rather than latter in true spirit.

5. Virtuous Politics

Seven Cardinal Sins as per our Father of nation M. K Gandhi largely

stress upon the character of today's politician. He says "Politics without Principles, Wealth without Work, Pleasure without Conscience, Knowledge without Character, Commerce without Morality, Worship without Sacrifice, and Science without Humanity". Statesmen like Pandit Jawaharlal Nehru, Sardar Vallabhbhai Patel, and Dr. A. P. J. Abdul Kalam have exhibited their true characteristics in the service to our great country which should be treated as the light house for our forthcoming politicians.

6. Government (Administrative Reforms)

An eye opening example is from the housing division of a Chennai-based firm (Alacrity firm) well known for its value-based policies. The company was not able to hand over the flats to the customer at the promised date, because of prolonged delays in getting sanction for electrical works from the electricity board. The company was determined not to take the easy and customary path of greasing the government officials. The company wrote letters to the authorities of the electricity board and also explained their principled position to the customer. A small group of understanding and sympathetic customers wrote letters to the highest political and government authorities, demanding immediate action. And finally the moral force behind the company's decision triumphed. The company got the sanction for the electrical works without compromising on its principles (Srinivasan, 2011). Thus our executives must think this way to deliver best services to the public thereby calling them as truly Public servants.

Conclusion

Values Education and Quality Teaching are cohering. Values Education without Quality Teaching is an oxymoron, of course, but Quality Teaching without Values Education has the potential to suffer from the missing link that promises to strengthen and complete it. An out-of-the box approach seems inevitable at this crucial juncture which must be well thought of, by all stakeholders associated with the system of education in our country.