Appendix I

Lesson Plan I: Value of Cooperation

Primary Information:	
Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School, Vadodara
Grade Level	IX
Subject	Science and Technology
Unit	4: Properties of Matter
Topic	Mixture
Value integrated	Value of Cooperation
Entry Behaviour	Students have the prior knowledge about element, mixture and compound.
General Objectives	1. Students will be able to understand about the element. 2. Students will be able to understand about mixture. 3. Students will be able to develop the value of cooperation. 4. Students will develop interest towards Science.
Method	1. Lecture 2. Questioning 3. Discovering (Activity performed in groups) 4. Cooperative Learning
Media	Black board
Approach	Inductive

Introduction:

Teacher: Good morning students!

Students: Good Morning, Sir.

Teacher: What we have discussed in the last period?

Students: Sir we have learnt about melting point, boiling point and latent heat.

Teacher: Well Done! And what about the homework I gave you yesterday?

Students: We have done sir.

Teacher: Good! So are you all ready for learning more about matter?

Students: Yes sir, definitely.

Teacher: OK! We will go for one activity. Are you all ready for that?

Students: Yes sir! We are eager and excited for the activity.

Presentation:

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
• Concept of mixture	• Students will be able to give meaning of mixture in their own words. • Students will be able to demonstrate activity of mixture. • Students will be able to give examples of mixtures. • Students will be able to define homogeneous and heterogeneous mixture. • Students will be able to differentiate between compound and mixture. • *Students will be able to give meaning of the value of cooperation.* • *Students will be able to define the value of cooperation.* • *Students will tell the benefits of cooperation*	**Mixture:** Teacher will demonstrate the following activity in classroom. Take a mixture of common salt and sand in one beaker. Add water to it. Stir it. The common salt will dissolve in water. Sand being insoluble will remain in beaker without dissolution. Filter this solution with the help of filter paper. Sand will remain on filter paper and solution of common salt will be collected in an evaporating dish. Now heat slowly the evaporating dish. Water will go out as steam and crystals of common salt will be obtained. The sand and common salt will be back with their original properties by the physical methods of filteration and evaporation. Hence, it can be said that it is a mixture. For example, Soil is a mixture. What are the constituents of soil ? Hence, soil do not contain single substances but they are mixture of many substances. All these substances cooperatively act together formed soil that provides everything for the growth and development of the plants. So we can say that there is a strong cooperation among different components to form a mixture like soil. Are you agree with me ? *From this example can you tell me what is cooperation ?* *Very good. Really you have given the meaning of cooperation. It can be said that in a mixture like soil, many individual elements/ substances work together with a common goal to form soil for the benefit of the living organs.* *Same as we can say that our society is also contains a mixture of different types of people and for maintaining harmony in society cooperation between different types*	• Students will listen to teacher attentively. • Students will answer the questions asked by the teacher. -Clay and sand. - minerals like iron, magnesium - Fibres, water, waste materials *Yes, we are agreed.* *-Working together* *-working with common goal* *-working of different components for the benefit of others.* • *Students will listen attentively to teacher.*	

		of people is essential. For the success of every thing there are cooperation between many people directly or indirectly. For example, construction of a temple, voting in an election, giving taxes for running of the government. In all these cases there is the cooperation of each and every citizens. Without the cooperation of people these big things can not be possible. Can you give some more example of cooperation. *-Good. These are the example of cooperation* *Tell me what will happen if there is no cooperation between different types of people in our society?* *Very Good!* *Thus cooperation is very important otherwise there is no peace in society Thus, cooperation is the process of groups of organisms working or acting together for their common/mutual benefit, as opposed to working in competition for selfish benefit.* *I will tell you a story. You all listen carefully.*	*- Functioning of Market place,* *- working of cooperative society/ banks* *-There will be no peace and harmony in society.*	
		There was a student named Mohan studying in standard X. He was an orphan as he lost his parents in an accident and he has not any close relatives. An NGO was providing finance for his study. So he was living in school hostel. His board exam was near and merely he had one month to prepare for exam in all subjects. But one day, accidently, he got injured his right eye and doctor said it is very serious injury and can cure only through the operation and its very costlier. The sad thing was that he did not have any extra money with him for the operation. His classmates and hostel mates when came to know about the situation of Mohan, they decided to cooperate him as much as possible so that he can appear in exam. They have taken responsibility to help him to extent they can. Some friends gave him notes for reading, some helped him in preparation by reading the texts to him , some had arranged money for operation through		Give the examples of mixture from your everyday life. *What is the meaning of cooperation?* *Define the value of cooperation.* *Give the characteristics of a person having the value of cooperation.*

		collecting money from parents and some local leaders, some had taken care during his hospital days. Finally when the result came after the exam, Mohan was among the top ten in school. Now Mohan is of 40 years age and working as a manager in good company. He is still remembering all his friends for their generous help and cooperation during his bad time. This was the result of the cooperation of his friends.	Students will listen the story	
• Types of mixture	• Students will be able to explain about the types of mixture.	**Types of mixture:** There are two type of mixtures: Homogeneous and Heterogeneous. The mixture in which components in solution are uniform and its formation in the whole solution is also same is called homogeneous mixture. For ex. Sugar dissolved in water. Each component of mixture is different, and properties of each component are also different. For ex. In a mixture of sodium chloride and iron powder both seen different.	• Students will listen attentively to teacher.	What are different types of mixture ?

Closure Activity:

1. Today, we have discussed and learnt about types of mixture, solution and its types. Tomorrow we will continue more about concentration of solution and molecule.

Home Work:

- Write the examples of mixtures and solutions by taking the examples of your daily life.
- *Give some more examples of cooperative activities done in your family and society.*

Lesson Plan II: Value of Cooperation

Primary Information:	
Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Standard	IX
Subject	Science and Technology
Unit	4: Properties of Matter
Topic	Concentration of solution, Atom and Molecule
Value Integrated	Value of Cooperation
Entry Behaviour	Students have the prior knowledge about the solution and its types
General Objectives	1. Students will be able to understand homogeneous and heterogeneous mixture. 2. Students will be able to understand about solution and its types. 3. Students will be able to develop the value of cooperation. 4. Students will develop interest towards Science.
Method	1. Lecture 2. Questioning 3. Discovering (lab activity performed in groups) 4. Cooperative Learning
Media	Black board
Approach	Inductive

Introduction:

Teacher: Good morning students!

Students: Good Morning sir

Teacher: What we have learnt in the last period?

Students: Sir we have learnt about the solution and its types.

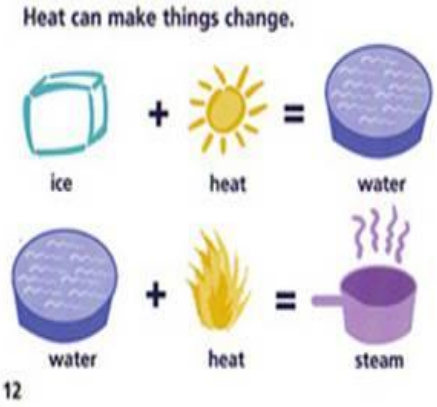
Teacher: Well Done! And what about the homework I gave you yesterday?

Student: We have done sir.

Teacher: Good! So are you all ready for learning more about solution?

Student: Yes sir, definitely.

Teacher: OK! We will go for one activity. Are you all ready for that?



Student: Yes sir! We are eager and excited for the activity.

Teacher: What effect of temperature you noticed here?

Student: Ice melts and water turns into steam.

Teacher: Very good!

Teacher: Now let us discuss in detail.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
• Concept of concentration of solution. • Concept of atom. • Concept of molecule. • Difference between atom and molecule.	• Students will be able to find out concentration of solution by using its formula. • Students will be able to define atom • Students will be able to define molecule. • Students will be able to differentiate between atom and molecule.	**Concentration of solution:** After entering the class the teacher will ask these questions from the students to judge their prior knowledge regarding topic and about the topics, already studied. Concentration of any of the solution can be find out by two methods in units Weight based (w/w%) Volume based (w/v%) **Atom:** The smallest particle of an element is called an atom. **Molecule:** In a chemical combination between two or more elements, their atoms combine in some definite proportion to form molecule. In the formulation of molecule for example H20 where two atoms of Hydrogen combines with one atom of Oxygen forms the water molecule. In the formulation of water, there is quite a proper cooperation between the oxygen and the hydrogen atoms. If the atoms of oxygen and hydrogen will not cooperate, then there will be no water. This is one of the example of cooperation between atoms of hydrogen and oxygen which are non-living elements. Cooperation is also very essential for human being and any living being.	Students will answer the questions asked by the teacher.	The following questions will be asked to the students: • What is the difference between atom and Molecule? • Define solution. • Which types of solutions are there?

	• *Students will be able to tell the meaning of the value Cooperation* • *Students will be able to define Cooperation.* • *Students will be able to tell characteristics of a person having the value of Cooperation* • Students will be able to define mole. • Students will be able to explain about	*Tell me what do you mean by cooperation?* *Very good! You have an idea about the value cooperation. It is one of the very important value without which no society can exist. I will tell you a story about the value of cooperation.* *Long long years ago, there was a bird with two necks and a single body. The bird was enjoying the life with a proper cooperation and harmony between two necks. Whenever any testy food was available it was being shared by both the necks and both were getting the test. One day, one of the neck get a good fruit and eat it without informing the second neck and the second neck came to know about it and became unhappy. In another day the second neck get a poisonous fruit and eat it without telling to the first neck and the bird died. They were happy with cooperation, without cooperation they died. Hence, now you are able to understand the importance of cooperation. Let us define cooperation."It is a quality to adjust with people, place and time while working in group, accepting group decision and promoting healthy competition to achieve the group goal"* **Molecular mass and atomic mass:** Every element has its atomic mass. Can be measured with spectrometer. The molecular mass of any molecule or compound can be obtained by use of atomic masses of the atom present in the molecule or a compound. **Mole:** Mole = mass of any atom,	*Cooperation means helping each other for the common goal.* *Students will listen the story.*	• *What is the meaning of Cooperation?* • *Define cooperation in your own word.* • *Tell the characteristics of a person having the value Cooperation.*

	the concept of mole.	molecule or compound in grams Mass of atom, molecule or compound in grammole-1 Teacher will give examples to find out mole of any compound or molecule		

Closure Activity:

1. Today, we discussed and learnt about concentration of solution, mass and mole concept.

Home Work:

- Summarize the lesson you learnt on solution, mass and mole in your own words.
- *Write the characteristics of the person you found very cooperative to others.*

Appendix II

Lesson Plan I: Value of Equality

PRIMARY INFORMATION:

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	7: Plant Tissue
Topic	Tissue Formation
Value integrated	Value of Equality
Entry Behaviour	Students have the prior knowledge about cell and cell division.
General Objective	1. Students will understand tissue formation 2. Students will understand growth of the cells 3. Students will develop the value of equality. 4. Students will develop interest towards science and evolution.
Method	1. Lecture 2. Questioning 3. Discovering (Activity performed in groups) 4. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION:

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Before we start our lesson, we will perform an activity.

(Teacher will make two groups in class, one group with only 2 members and other group with 5 members. Each group will be given boxes of coloured beads and teacher will instruct the students of both groups to separate as much as the red coloured beads in just 10 minutes of time. Students of both the groups will start separating the red coloured beads.)

Teacher: Which group has separated maximum no. of beads?

Students: Group 2 sir.

Teacher: Why the group 2?

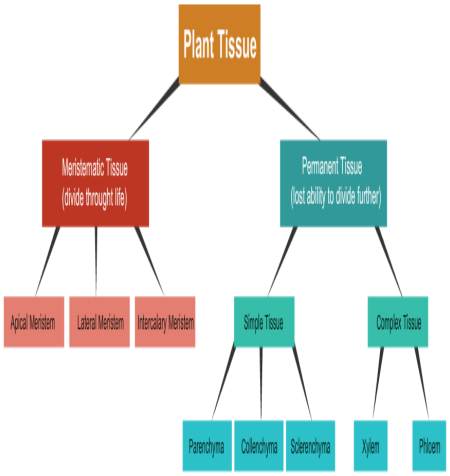
Student: Because group 2 had more members compared to group 1.

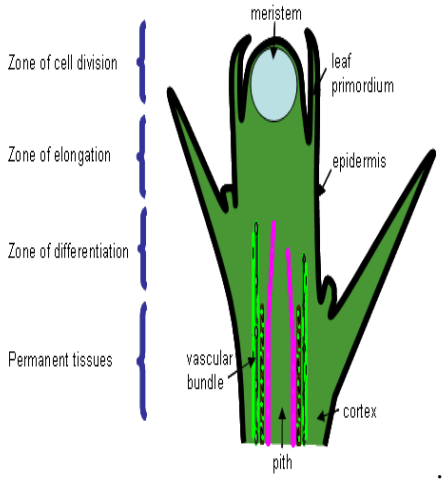
Teacher: That's absolutely right! By increasing the member in the group can lessen the labour, same way in the cells by increasing the divisions the functions get simpler.

Teacher: Now by this activity, we came to know the value of division of labour, cell division which finally results into tissue formation. So today we will learn about the plant tissue.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Concept of plant tissue	1. Students will be able to define tissue 2. Students will be able to explain about the tissue formation. 3. Students will be able to differentiate cell and tissue 4. Students will be able draw diagram of plant tissue. 5. *Students will be able to given meaning of the value of equality.* 6. *Students will be able to define value of equality.* 7. *Students will be able to state characteristics of the*	Teacher will ask questions about the cell division to the students to judge their prior knowledge. **Tissue formation** A group of cells having common origin, similar structure and performing a definite function is called a tissue. Tissues are found in plants and animals. *Thus tissue is a group of cells with similar structure. If the cells are dissimilar than it can't form a tissue. So equality in all the cells is required to form a tissue. Similarly, we also need equality to form a good society and nation. Tell me what do you mean by the value of equality?* *Very good!* *Thus equality is very important in development of nation by providing equal chance to all without any discrimination. I will tell you a story on value of equality.* *There was a summer afternoon, and like most summer afternoons, a group of boys were playing together in a park. They knew each other well, as they had spent the last three years of school together and tomorrow was the start of a new term, about which they were very excited and nervous.* *The first day of school came, and all the boys from the park the day before were put in the same class. They jumped for joy all morning long. After lunch, the teacher came into the classroom with a boy they had never seen before. He was from other state, and none of them had ever met*	Students will answer the questions asked by the teacher. *-To give equal chance to all.* *Students will listen attentively to the teacher.*	The following questions will be asked to the students. Which is the structural and functional unit of living organism? 1. What is the function of the cell? 2. What do understand by 'Division of labour'? 3. Why life functions are important**?** *What is meaning of equality.* *Define the value of equality.* *Give the characteristics of the person having value of equality.*

	person having the value of equality.	*anyone from that state.* *All the children were quiet, waiting for the teacher to speak. And the teacher said: "Hello everyone, this is our newest class member. His name is Murugan and he is just like all of you. Murugan comes from Tamil Nadu, but he knows some Gujarati as his father working in Gujarat since last 5 years. I hope you will help him settle in and make him feel at home."* *Then one of the children said to Murugan: "How come you speak differently?" so Murugan answered: "In my state, we all talk this way. But we're just the same as you." This answer of Murguan impacted on the other boys of the class and they accepted him same as they accepted local boys and the boys realised that we are different from living place, language, religion, caste and creed but we are equal as a human.* Plant tissues can be grouped into two basic types: meristematic and permanent tissues  **Meristematic tissue** The main function of meristematic tissue is mitosis. The cells are small, thin-walled, with no central vacuole and no specialized features. Meristematic tissue is located in •the apical meristems at the growing points of roots and stems. •the secondary meristems (lateral buds) at the nodes of stems (where branching occurs) and in some plants, •meristematic tissue, called the cambium, that is found within mature stems and roots. The cells produced in the meristems soon become differentiated into one or another of several types. **1.Apical meristem**		

		Apical meristem: They are present at the tips of stems, roots, and branches. They are responsible for the axial growth in a plant. **2. Intercalary meristem:** They are present at the base of internodes, and are responsible for the growth of internodal region **3.Lateral meristem:** They are present on the lateral side of stems and roots. Lateral meristem is responsible for the radial growth of plants. Vascular cambium and cork cambium are examples of lateral meristem  		

Closure Activity:

- Today, we discussed and learnt about cell division and tissue system. We will continue types of plant tissue.

Home Work:

- Read the tissue system and its types and explain the role of division of labour in tissue systems?
- *Observe and write some examples of equality from your neighbourhood.*

Lesson Plan II: Value of Equality

PRIMARY INFORMATION:

Name of the Teacher	ShivekumarDubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	7: Plant Tissue
Topic	Simple Permanent Tissue
Value integrated	Value of Equality
Entry Behaviour	Students have the prior knowledge about the simple permanent tissue.
General Objective	1. Students will understand different types of tissue system. 2. Students will understand simple permanent tissue. 3. Students will develop value of equality. 4. Students will develop interest towards science.
Method	1. Lecture 2. Questioning 3. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

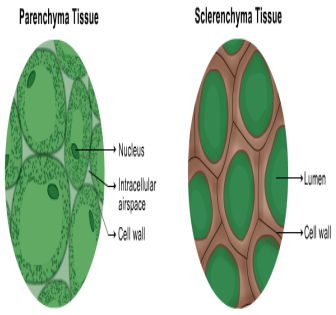
Students: Good afternoon sir!

Teacher: we are living in concrete houses but still we need trees around us for our healthy life. What is the role of trees in our healthy life?

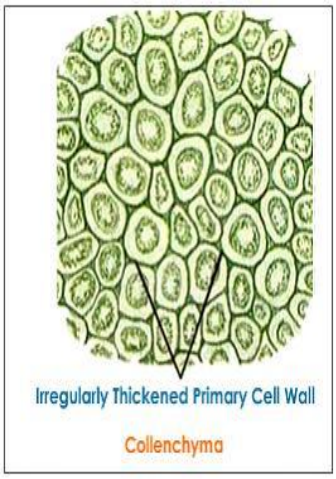
Student 1: Because trees recovering carbon dioxide from the atmosphere that is harmful for our life and increasing oxygen which is needed for our life.

Teacher: Good! So trees are very useful for human and animals. They also provide us fruits and nuts, wooden, fuel, timber etc. Same as some plants are providing us vegetables, medicines and other things. These plants are also called greener plants. Plants are one of the two groups into which all living things are traditionally divided, the other is animals. A mature vascular plant contain several types of differentiated cells. these cells are grouped together in tissues. Today we will learn about tissues.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Concept of Simple permanent tissue: 1. Parenchyma 2. Collenchyma 3. Sclerenchyma	1. Students will be able to give names of different types of simple permanent tissue. 2. Students will be able to explain about the different types of simple permanent tissue. 3. Students will be able to draw diagram of different types of simple permanent tissue. *4. Students will be able to given meaning of the value of equality.* *5. Students will be able to define value of equality.* *6. Students will be able to give characteristics of the person having value of equality.*	**Simple permanent tissue** Simple permanent tissues are mainly three types: a) Parenchyma b) Selerenchyma c) Collenchyma **a) Parenchyma** The most common type of simple permanent tissue present in all the plants which are isodiametric i.e expanded equally and vary greatly in morphology along with physiology is known as parenchyma. It is composed of thin wall living cell and cell wall is made of cellulose. Intercellular space is present and cytoplasm is vacuolated. In transverse section, parenchyma cell appear circular, oval, rectangular or polygonal in shape .Parenchyma tissue present in almost all plant organs specially in non woody region. It forms the bulk of ground tissue.  As the parenchyma tissue is simple and can equally expands, they are unique and therefore these cells can store materials in their vacuoles. *Here the parenchyma tissue expands equally so it can perform its functions properly. Tell me, what do you mean by equality?* *Very good.*	Students will answer the questions asked by the teacher. *-No discrimination to others.*	The following questions will be presented before the class. Question: 1. Which are the types of simple permanent tissue? 2. Explain about the parenchyma simple permanent tissue. 3. Explain about the selerenchyma simple permanent tissue.

		Thus we also should have the value of equality because others accept easily to the person who accepts equally to others. *We should have the value of equality. We should treat all as equal. Why we should treat all as equal?* *Good.* *There should not be discrimination based on social categories such as gender, race, disability, age, social class and religion. The value of equality among the citizens can create a fairer society where everyone can participate in activities as per their choice and also everyone has the opportunity to fulfil their potentials.* *Tell me, what will happen if we discriminate to each other?* *Very good.* *We can't grow by discriminating with other people. All are equals and we should respect to others treating them equal as us.* **b) Selerenchyma** The walls of these cells are very thick and built up in a uniform layer around the entire margin of the cell. Often, the cell dies after its cell wall is fully formed. Selerenchyma cells are usually found associated with other cells types and give them mechanical support. Selerenchyma is found in stems and also in leaf veins. It also makes up the hard outer covering of seeds and nuts. **c) Chollenchyma** The mechanical tissue present in the plant body especially in the primary body of dicot stem below the epidermis forming the hypodermis is called collencyma. The cells are	*Because, we all human and we all are the children of God.* *-We cannot develop our nation as a whole.* *-There will be no cooperation among the people of nation.*	*What is meaning of equality.* *Define the value of equality.* *Give the characteristics of the person having value of equality.*

		elongated with oblique, slightly rounded with tapering ends. It is composed of living and thick walled cells. The cells are thickened at the corner against the intercellular spaces. The thickening is due to deposition of cellulose, hemicellulose or pectin. In transverse section they appear circular, oval or polygonal. In secondary body of dicot stem and in monocot stem collenchyma is absent. In roots also rarely present. Collenchyma stem may be present in petiole of dicot stem.  		

Closure Activity:

- Today, we learnt about the parenchyma and selerenchyma simple permanent tissues tomorrow we will discuss about the difference between the simple permanent tissues.

Home Work:

- State the location and functions of parenchyma, selerenchyma and chollenchyma simple permanent tissues along with a diagram.
- *Prepare a note on equality from the recommendations of different committees and commissions both at national and international level.*

Appendix III

Lesson Plan I: Value of Simplicity

PRIMARY INFORMATION:

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	7: Plant Tissue
Topic	Simple Permanent Tissue
Value integrated	Value of Simplicity
Entry Behaviour	Students have the prior knowledge about the simple permanent tissue.
General Objective	5. Students will understand different types of tissue system. 6. Students will understand simple permanent tissue. 7. Students will develop value of simplicity. 8. Students will develop interest towards science.
Method	5. Lecture 6. Questioning 7. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

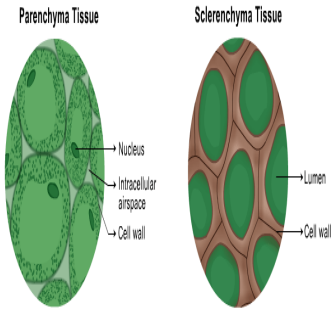
Students: Good afternoon sir!

Teacher: we are living in concrete houses but still we need trees around us for our healthy life. What is the role of trees in our healthy life?

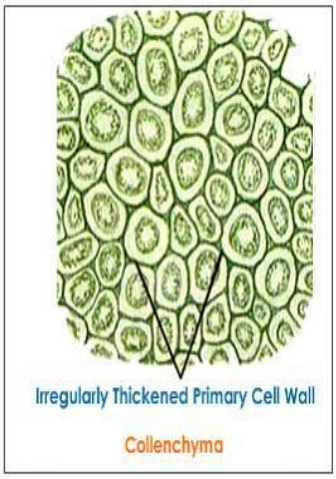
Student 1: Because trees recovering carbon dioxide from the atmosphere that is harmful for our life and increasing oxygen which is needed for our life.

Teacher: Good! So trees are very useful for human and animals. They also provide us fruits and nuts, wooden, fuel, timber etc. Same as some plants are providing us vegetables, medicines and other things. These plants are also called greener plants. Plants are one of the two groups into which all living things are traditionally divided, the other is animals. A mature vascular plant contain several types of differentiated cells. these cells are grouped together in tissues. Today we will learn about tissues.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Concept of Simple permanent tissue: 4. Parenchyma 5. Collenchyma 6. Sclerenchyma	1. Students will be able to give names of different types of simple permanent tissue. 2. Students will be able to explain about the different types of simple permanent tissue. 3. Students will be able to draw diagram of different types of simple permanent tissue. 4. *Students will be able to give meaning of simplicity.* 5. *Students will be able to define the value of simplicity.* 6. *Students will be able to give characteristic of the person having value of simplicity.*	**Simple permanent tissue** Simple permanent tissues are mainly three types: a) Parenchyma b) Selerenchyma c) Collenchyma **a) Parenchyma** The most common type of simple permanent tissue present in all the plants which are isodiametric i.e expanded equally and vary greatly in morphology along with physiology is known as parenchyma. It is composed of thin wall living cell and cell wall is made of cellulose. Intercellular space is present and cytoplasm is vacuolated. In transverse section, parenchyma cell appear circular, oval, rectangular or polygonal in shape .Parenchyma tissue present in almost all plant organs specially in non woody region. It forms the bulk of ground tissue.  As the parenchyma tissue is simple and can equally expands, they are unique and therefore these cells can store materials in their vacuoles. *Thus we can say that the being simple, the parenchyma tissue is unique and can store the materials that are needed for the development and growth of the plant.* *Tell me what do you mean by*	Students will answer the questions asked by the teacher. *-To be simple*	The following questions will be presented before the class. Question: 4. Which are the types of simple permanent tissue? 5. Explain about the parenchyma simple permanent tissue. 6. Explain about the selerenchyma simple permanent tissue.

		simplicity? *Good.* *Thus, we should have the value of simplicity so that we can expands our horizons as others will accept easily to the person who is simple and sober. All the great people of the world extol the virtues of simplicity.* *What is simplicity?* *Very good! Simplicity is the quality or state of being simple. It is something which is easy to understand or explain.* *What will happen without the value of simplicity among the citizens?* *Very good.* *In the context of human life style, simplicity can denote freedom from hardship, effort or confusion i.e. simple living style. God is infinite simple. All religion emphasises on the value of simplicity. If we imbibe the value of simplicity, then many of our problems can be solved itself. There are many benefits of simplicity. It reduces stress, cuts costs, saves time, increases productivity and enriches our lives.* **b) Selerenchyma** The walls of these cells are very thick and built up in a uniform layer around the entire margin of the cell. Often, the cell dies after its cell wall is fully formed. Selerenchyma cells are usually found associated with other cells types and give them mechanical support. Selerenchyma is found in stems and also in leaf veins. It also makes up the hard outer	*-Simplicity is the quality of being simple.* *-There will be more riots, chaos etc.* *-There will be no harmony.* *-There will be problem of ego among the different persons* *-There will be more stress in society.*	*What do you mean by simplicity?* *Define simplicity.* *Give characteristics of the person having value of simplicity.*

		covering of seeds and nuts. **c) Chollenchyma** The mechanical tissue present in the plant body especially in the primary body of dicot stem below the epidermis forming the hypodermis is called collencyma. The cells are elongated with oblique, slightly rounded with tapering ends. It is composed of living and thick walled cells. The cells are thickened at the corner against the intercellular spaces. The thickening is due to deposition of cellulose, hemicellulose or pectin. In transverse section they appear circular, oval or polygonal. In secondary body of dicot stem and in monocot stem collenchyma is absent. In roots also rarely present. Collenchyma stem may be present in petiole of dicot stem.  		

Closure Activity:

- Today, we learnt about the parenchyma and selerenchyma simple permanent tissues tomorrow we will discuss about the difference between the simple permanent tissues.

Home Work:

- State the location and functions of parenchyma, selerenchyma and chollenchyma simple permanent tissues along with a diagram.
- *Give some examples of simplicity of great persons.*

Lesson Plan II: Value of Simplicity

PRIMARY INFORMATION:

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj high School
Grade Level	IX
Subject	Science and Technology
Unit	8: Animal Tissue
Topic	Epithelial Tissue
Value integrated	Value of Simplicity
Entry Behaviour	Students have the prior knowledge about the simple permanent tissue.
General Objective	1. Students will understand animal tissue system. 2. Students will understand epithelial tissue. 3. Students will develop value of simplicity. 4. Students will develop interest towards science.
Method	1. Lecture 2. Questioning 3. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: In our previous lesson we studied about the plant tissue. What is the name of the study of micro-structure of organ?

Students: No answer.

Teacher: Ok! I will tell you. The study of micro-structure of organ is called Histology. Same as plants, our organs are made up of different types tissues. These tissues are a group of cells performing particular functions of specific type, of similar shape, of common origin, structure and bearing properties. The origin of such cells are from specific embryonic layers. So today, we will learn about the animal tissues.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Epithelial tissue	5. Students will be able to explain about the epithelial tissue. 6. Students will be able to state functions of epithelial tissue. 7. Students will be able to classify the epithelial tissues. 8. *Students will be able to give meaning of simplicity.* 9. *Students will be able to define the value of simplicity.* 10. *Students will be able to give characteristics of the person having value of simplicity.*	The classification of body's tissues is taken out into four divisions: a) Epithelial tissue b) Connective tissue c) Muscular tissue d) Nervous tissue **a) Epithelial tissue** Epithelium is formed of covering cells so surrounding the entire body, at outer layer of the organs, internal layer of the alimentary canal and at the cavity of the glands epithelium layer is there. The epithelium payer surrounding the cavity of blood vessels is called endothelium. **Classification of Epithelium tissue** The nomenclature and classification of epithelium tissues is done on the basis of shapes and the functions performed. E.g. whereas the cells of glandular epithelium possesses the functional properties of secretion. In the classification of epithelium mainly the functional properties and shape characteristics are not enough. There is no or very little intercellular substance is found between epithelium cells. so the walls of epithelium cells are strongly joined to one another. In addition to this, one cells layer on basement membrane which are made up of collagens substance of specific type. The simple epitheliums are made up of a series of one cell, whereas stratified epitheliums cells of this tissues are arranged in many layers. The epitheliums are also having the quality of simplicity. *What do you mean by the value of simplicity?*	Students will answer the questions asked by the teacher. *Simplicity quality of being simple.*	The following questions will be presented before the class. Question: a. Which are the types of simple permanent tissue? b. Explain about the parenchyma simple permanent tissue. c. Explain about the selerenchyma simple permanent tissue.

		Very good! *Simplicity is the quality or state of being simple.* *Who is our national father?* *Good. Out national father Gandhiji also had the greatest value of simplicity. He told that "Simplicity is a matter of the heart. But least we deceive ourselves, the ideal is not to possess anything which the poorest on earth does not." He maintained the value of simplicity in his entire life and lived a simple life.* *What simplicity qualities Gandhiji was possessed?* *Good.* *I will tell you a story on the value of simplicity. You all listen carefully.* *A person named Rohit who is clerk, coming out of his office, glanced at the Emperor palace with its shining domes and thought: "What a shame that I wasn't born in the royal family. Life would have been so easy then". Then Rohit went in the direction of the town centre, were the rhythmical banging of the hammers and loud shouts were heard.* *The workers were building a new building right in the middle of the square. One of them saw Rohit with his papers and thought: "Why didn't I go to study, like my father told me. Now I would be doing easy jobs, writing texts the whole day, and life would be so easy then."* *At that time the Emperor came to the giant window in his palace and glanced into the square. He saw the workers, clerks, salesmen, buyers, children and adults, and*	*Gandhiji.* *-Wearing simple clothes.* *-Living simple life.* *-Students will listen carefully to the teacher.*	*What do you mean by simplicity?* *Define simplicity.* *Give characteristics of the person having value of simplicity.*

		thought how it must be good to be in the fresh air all day, doing physical work, or working for someone, or just being a street vagrant, not thinking at all about politics and other difficult questions. "What a simple life these simple people must have" – he whispered. *Thus simplicity is one of the important value in our life. We should be happy as we are and with the things we have.* simple epitheliums are mainly of four types based on their shape: 1. Squamous Epithelium 2. Cuboidal Epithelium 3. Columnar Epithelium 4. Ciliated Epithelium		

Closure Activity:

- Today, we learnt about the epithelium tissue. In next lesson, we will discuss about the difference types of epithelium tissues in details.

Home Work:

- Write a note on Epithelium tissue.
- *Write the characteristics of the great person who possess the value of simplicity.*

Appendix IV

Lesson Plan I: Dignity of Labour

Name of the Teacher :	Shivekumar Dubey
Name of the School:-	Vidyakunj high School
Grade Level	IX
Subject:	Science and Technology
Unit:	7: Plant tissue
Topic:	Meristematic tissue and its types
Value integrated	Value of Dignity of Labour
Entry Behaviour:	Students have the prior knowledge about tissue Students have the prior knowledge of value: Dignity of labour
General Objective:	9. Students will be able to understand meristematic tissue. 10. Students will be able to understand different types of meristematic tissues. 11. Students will develop value of dignity of labour. 12. Students will develop interest towards Science evolution.
Method:	1. Lecture 2. Questioning 3. Cooperative Learning
Media :	Black board
Approach:	Deductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir.

Teacher: Tissue formation is a mechanism which is utilized to perform various life processes each type of tissue performs various functions.

. Which are the two divisions in which the plant tissue issue is divided?

Student 1: Meristematic tissue and Permanent tissue.

Teacher: Good! What is the difference between Meristematic and permanent tissues?

Student 2: Meristematic has the ability of cell division and in permanent tissue it loses the ability to divide further.

Teacher: Very good! So today, we will learn about the types of meristematic tissues.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Meristematic tissue and its types	11. Students will be able to explain about the meristemati tissue. 12. Students will be able to state the different location of meristemati c tissue. 13. Students will be able to explain the different types of meristem tissues. 14. Student will be able to locate the apical meristem , lateral meristem and intercalary meristem in the stem. 15. *Students will be able to give meaning of the dignity of labour.* 16. *Students will be able to define the value of dignity of labour.* 17. *Students will be able to state characterist ic of the person having the value of*	**Meristematic tissue** The main function of meristematic tissue is mitosis. The cells are small, thin-walled, with no central vacuole and no specialized features. Meristematic tissue is located in • the apical meristems at the growing points of roots and stems. • the secondary meristems (lateral buds) at the nodes of stems (where branching occurs) and in some plants, • meristematic tissue, called the cambium, that is found within mature stems and roots. The cells produced in the meristems soon become differentiated into one or another of several types. **1. Apical meristem:** They are present at the tips of stems, roots, and branches. They are responsible for the axial growth in a plant. **2. Intercalary meristem:** They are present at the base of internodes, and are responsible for the growth of internodal region **3. Lateral meristem:** They are present on the lateral side of stems and roots. Lateral meristem is responsible for the radial growth of plants. Vascular cambium and cork cambium are examples of lateral meristem.	Students will answer the questions asked by the teacher. Students will draw the Meristematic tissues showing the three types of meristematic differentiatio n.	The following questions will be presented before the class and students will be ask to complete the sentences. Question: 1. What is a meristematic tissue ? 2. Which are the types of meristematic tissues? 3. State the Functions of each type of meristematic tissues. *What do you mean by dignity of labour?*

	dignity of labour.	*Thus we can say that all the three meristematic tissues having dignity of labour that leads the growth and development of plant. Without the labour of merismatic tissues, plant cannot grow. Thus, we can say that merismatic tissues are having the value of dignity of labour.* *What do you mean by dignity of labour?* *Good.* *We also should have the value of dignity of labour. We should do the work whatever it is. No any work is less or more valuable. We should give equal importance to all work whether it is small or large work.* *What will happen if we don't have the value of dignity of labour?* *Very good!* *You all observed that your home that you mom working right from early morning to late night and performing all her duties without discriminating in works. She is doing all work for your family and its members.* *What works your mom performing at your home?*	*-To do all work with dignity.* *-To do work without any discriminatio n whether its small or big work.* *-Everyone will look for superior work only.* *-There will be problems of less important works.* *-Preparing breakfast* *-Cooking food* *-washing cloths* *-Cleaning home* *-Serving our grand parents* *-Serving to our father and us*	*Define dignity of labour.* *Give characteristics of the person having the value of dignity of labour.*

		Good. *So the mother in every family doing all household works whether she is working or not. Thus, the value dignity of labour indicates that all types of works are respected equally, and no occupation is considered superior. Though, one's occupation for his or her livelihood involves physical work or menial labour, it is held that the job carries dignity compared to the jobs that involve more intellect than boy. Social reformers like Basava and his contemporary Sharanas and people like Mahatama Gandhi were prominent advocates of dignity of labour.*		

Closure Activity:

- Today, we discussed and learnt about the meristematic tissues. We will continue in next lesson.

Home Work:

- Write a note on meristematic tissue with suitable diagram.
- *Write the note on the Gandhiji's value of dignity of labour.*

Lesson Plan II: Dignity of Labour

Name of the Teacher :	Shivekumar Dubey
Name of the School:-	Vidyakunj High School
Grade Level	IX
Subject:	Science and Technology
Unit:	7. Plant tissue
Topic:	Chlorenchyma tissue
Value integrated	Value of Dignity of Labour
Entry Behaviour:	Students have the prior knowledge about plant tissue. Students have the prior knowledge of value: Dignity of labour
General Objective:	1. Students will be able to understand chlorenchyma tissue. 2. Students will be able to understand different parts of chlorenchyma tissues. 3. Students will develop value of dignity of labour. 4. Students will develop interest towards Science evolution.
Method:	1. Lecture 2. Questioning 3. Cooperative Learning
Media :	Black board
Approach:	Deductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir.

Teacher: Which tissues are made up of only one type of cells?

Student 1: Simple permanent tissues.

Teacher: Good! How many types are there of simple permanent tissues?

Student 2: Three.

Teacher: Very good! Tell the name of three simple permanent tissues.

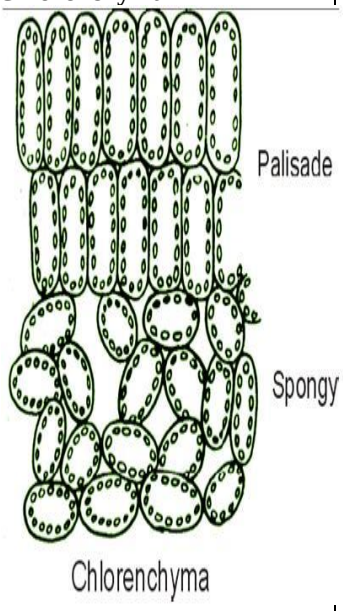
Student 3: Parenchyma.

Student 4: Collenchyma.

Student 5: Sclerenchyma.

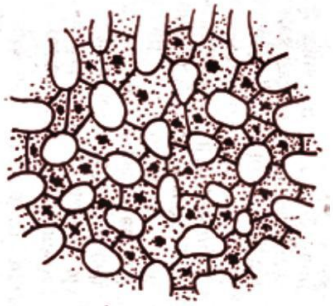
Teacher: Good! We already learnt about the parenchyma in our previous lesson. So today, we will learn about the clorenchyma tissue which is the one of the type of parenchyma tissues.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Chlorenchyma tissue	1. Students will be able to explain about the chlorenchyma tissue. 2. Students will be able to draw diagram of the chlorenchyma tissues. 3. Students will be able to classify the chlorenchyma tissue. 4. *Students will be able to give meaning of the dignity of labour.* *5. Students will be able to define the value of dignity of labour.* *6. Students will be able to give characteristics of the person having value of dignity of labour.*	**Chlorenchyma**  Chlorenchyma is seen in green leaves and some other green aerial organs. Its cells contain chloroplasts. Chlorenchyma is differentiated into (a) Palisade (b) Spongy chlorenchyma **(a) Palisade:** In this tissue the cells are columnar. The columnar cells are arranged at right angles to the upper surface of the leaf. The intercellular spaces are relatively few. The cells are somewhat compactly arranged. The location of palisade in leaf and other flattened aerial, green organs is such as to receive strong, straight sun-rays. **(b) Spongy Chlorenchyma:** Spongy chlorenchyma is located in leaf and other aerial green organs in such a way as to receive mild sun rays. Cells in spongy chlorenchyma are round or oval, parenchymatous and have large intercellular	Students will answer the questions asked by the teacher. Students will draw the Meristematic tissues showing the three types of meristematic differentiation.	The following questions will be presented before the class and students will be ask to complete the sentences. Question: 1. What is a meristematictissue ? **2.** Which are the types of meristematic tissues? **3.** State the Functions of each type of meristematic tissues. *What do you mean by the dignity of labour?* *Define the value of dignity of labour.* *State the characteristics of the person having value of dignity of labour.*

		spaces. In most leaves, the spongy chlorenchyma lies near the lower epidermis. The cells of both palisade and spongy chlorenchyma tissues contain chloroplasts and hence perform the function of photosynthesis synthesizing glucose *Thus the both palisade and spongy chlorenchyma partsare are based on dignity of labour and the labour leads growth and development of the cell. We also should have the value of dignity of labour and we should be ready to do any work without any discrimination in work.* *What do you mean by dignity of labour?* *Good.* *Now, I will tell you a story. You all listen carefully.* *Once upon a time in the city of Naples in Italy, there lived a young boy of about eleven years, with his mother. They were quite poor and so both of them had to work, to earn money only t buy their daily needs. The boy worked in a factory, but he loved to sing. In the "thick-tock" of the machines he heard music. In the chirping of the birds and the gurgling of the brooks, he heard the wonderful melodies of nature. He spent all his spare time in learning to read musical notes, practicing on an old piano, and singing songs.* *One day, he hopefully approached a music teacher and asked him to help him become a great singer. The teacher made him sing only once and said, "You are hopeless! You have no vice at all! You can never become a great singer". These words were like a blow across the*	*-To do all works whether its superior or inferior.*	

		face of the young lad. They had a crushing effect on him. The poor boy felt like giving up all his efforts. Son he began to wander through the streets of Naples with his fellow teen-age factory workers. *It broke the heart of his mother to see him so disappointed. She had faith in him. She knew what was good for her son. One evening, after dinner she put her hands around his neck and said, "I love the way you sing. Why don't we both sing our favorite song? It has been many days since I heard you sing". So saying, she took him to the piano. He played their favorite tune and soon the house was vibrating with the musical notes and the sounds of their singing. They both thoroughly enjoyed it. The mother said, "Why don't we start you on music lessons? I know a great music teacher who will train you to become an expert. I am sure some day you too will earn fame as a great singer". The encouraging words of his mother had a magical effect on the boy. He felt he was alive again.* *To prove her complete faith in her son the mother made all sorts of sacrifices. She even went barefoot in the cold winter months because she had to pay for his singing lessons. Her constant encouragement, faith in his talent and sacrifices motivated her son to regain his self-confidence and he eventually became one of the greatest singers of all times! His name was Enrico Caruso!*		

		Aerenchyma  Aerenchyma Hydrophytes are plants growing in water or water logged habitats. E.g.Trapa, Lotus, Pistia etc. Hydrophytes have aerenchyma as one of the tissues. Aerenchyma consists of small cells so arranged as to form large air spaces. Due to air contained the respective plant organs become soft, light and spongy. As a result the organs can keep themselves floating and obtain sufficient light for photosynthesis in the hydrophytes. Some of the air spaces show special type of partition walls, which provide them mechanical strength.		

Closure Activity:

- Today, we studied about the chlorenchyma and aerenchyma tissues. In next lesson, we will learn about the other type of simple permanent tissues.

Home Work:

- Write a note on chlorenchyma tissue with suitable diagram.
- *Write the importance of the value of dignity of labour.*

Appendix V

Lesson Plan I: Value of Determination

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	1: Motion
Topic	Motion and Rest
Value integrated	Value of Determination
Entry Behaviour	Students have the prior knowledge about friction, Inertia momentum and mass.
General Objective	5. Students will explain their understanding of motion. 6. Students will develop value of Determination. 7. Students will develop interest towards Science.
Method	8. Lecture 9. Questioning 10. Discovering (Activity performed in groups) 4. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Let us do an activity. *(Teacher will take one uncooked egg and one hard-boiled egg without revealing the state of eggs. Teacher will call two students and will give each egg to both the students. Teacher will instruct to both students to put the eggs carefully on a table and gently spin them without letting either egg fall off the table. After sipping both the eggs, teacher will tell the students to observe the motion of both the eggs until they eventually come to rest. Students may notice that it is more difficult to spin one of the eggs (the uncooked egg).)*

Teacher: What made the egg start spinning?

Student 1: Force that exerted to rotate the eggs.

Teacher: Good! Why both the eggs did comes to rest even when left untouched?

Student 2: Because of friction and gravitational force.

Teacher: Very good! Why one egg was more difficult to spin then the other?

Student 3: Because it was raw egg.

Teacher: Excellent! The other egg was boiled. It means the raw egg was difficult to spin.

Teacher: Did you notice that one egg was started to move again after it stopped?

Students: Yes sir!

Teacher: It was raw egg that started moving again.

Teacher: How can you distinguish between unboiled (raw) and boiled eggs?

Student 4: After spining, the boiled egg will stop while the raw egg will move again.

Tacher: Good! Today, we will learn about the motion.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Concept of Motion	1. Students will be able to define motion and rest. 2. Students will be able to differentiate motion and rest.	Teacher: If a person wants to go to market how can he reach the market? If vehicle does not move will this person reach market? So we can say that only due to the motion of a vehicle, person reaches from his home to market. The teacher will place a toy car on a table before the class and ask Is this car moving? What is the state of car?	Students will answer the questions asked by the teacher. Through vehicle. No.	The following questions will be presented before the class and students will be ask to complete the sentences. • What is the state of a person sitting on road with respect to moving car? • Define motion and rest.

	3. Students will be able to produce motion. 4. Students will be able to explain about the motion in their own words. 5. Students will be able to demonstrate the motion and rest. 6. Students will be able to give example of moving bodies and bodies in state of rest from daily life. • *Students will be able to give meaning of value determination.* • *Students will be able to define the value determination.* • *Students will be able to give characteristics of the person having the value of determination.*	***A body at rest continues to be at rest unless some external force is applied to move it. ... Left to itself, the body at rest, will never start moving. This is well known property of inertia of rest of bodies.*** ***So to achieve something in life and to achieve one's goal one should have the determination and have to work hard to achieve that.*** So we shall study about rest and motion without considering the force or agent which is causing this rest or motion. *In our life too, some of the forces or agents motivating us to achieve something or to work hard that unlocks door for the success. But the success could be achieved by continuous efforts without which strength or intelligence also can't help.* *What do you mean by determination?* *Good.* *The continuous efforts are the key to unlock our success is called determination.* *What will happen if one achieve the success without any effort?* *Very good.* *Now I will tell you a story. You all listen carefully.* *Asha was a 10 year ld girl, she was handicapped. She was unable to walk due to her handicap. Her dream was to take part in a mile walk competition, but she had to train for it because it was too difficult for her even to walk due to her handicap. But she continuously made effort to walk. Even she got hurt and pain then too she did not stop and made continuous efforts to walk until she could not walk and then she*	*-Continuous efforts for achieving success* *-The success will be just temporary*	• *What is the meaning of determination ?* • *Define determination in your own word.* • *Tell the characteristics of a person having the value determination*

		learnt to run slowly. And the mile walk competition arrived and she had to driven to the town hall. She went to town hall on her own and when the crowed seen her walking through her own legs than they cheered her. She could not win the competition however, she		
	• *Students will be able to tell characteristics of a person having the value of Determination.* 7. Students will be able to produce motion. 8. Students will be able to explain about the motion in their own words. 9. Students will be able to demonstrate the motion and rest.	*won the heart of crowd. Now, Asha is of 32 and runs 2 miles every day. This all happened because of the value of determination.* Teacher will orally give brief introduction of, motion and rest. The class will divided into appropriate groups and each group will be given a ball, a car, charts and markers. Charts will be consisted following instructions. Place the ball and car on a table and answer these questions Is the ball changing its position with respect to car? Is the car not changing its position with respect to ball? Now move the ball If the ball is changing its position what is the state of ball with respect to car? What the state of car with respect to ball? After the representation of groups teacher himself will explain the phenomenal in detail and to extend the concept teacher will ask the students to work in the same groups.	Students will listen to the teacher and will answer the question asked by the teacher. During the group work teacher will guide the groups towards solution by asking questions. After the completion some of the groups will represent their work before the class to help the others to reach the solution. After the completion of group work groups will be asked to represent their work before the class.	

Closure Activity:

- Today, we discussed and learnt about Motion and Rest. In next lesson we will continue more about motion and other aspects related to Motion.

Home Work:

- Search the answer of this question at home and write the answer on your note books. Can a body be in state of rest and motion at a time? Explain your answer.
- *Write the definition of Determination in your words and write 5 things you determined to achieve in life.*

Lesson Plan II: Value of Determination

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	1: Motion
Topic	Position, Distance and Displacement
Value integrated	Value of Determination
Entry Behaviour	Students have the prior knowledge about the position, distance and displacement.
General Objective	5. Students will explain their understanding of Position, Distance and Displacement. 6. Students will develop value of Determination. 7. Students will develop interest towards Science.
Method:	4. Lecture 5. Questioning 6. Discovering (lab activity performed in groups) 7. Cooperative Learning
Media :-	Black board
Approach: -	Inductive

INTRODUCTION:

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: What we have discussed in previous period?

Student 1: About the motion and rest.

Teacher: Good! What about the homework I gave to you?

Students: We have done it sir.

Teacher: Very good!

Teacher: Now you all give attention.

Teacher:

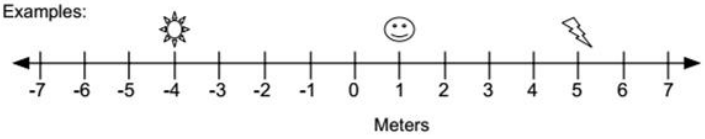
A. Reading Positions:

When objects start moving, it is useful to be able to describe an object's location.

To describe location, imagine a meterstick is placed next to the object. The meterstick acts like a number line.

- ✓ Objects to the right of the zero (0) have positive positions
- ✓ Objects to the left of the zero (0) have negative positions

Examples:



A. What is the position of the lightning bolt? *5 meters*
B. What is the position of the happy face? *1 meters*
C. What is the position of the sun? *-4 meters*

D. Distance and Displacement:

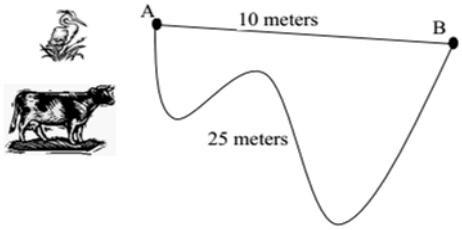
Now we will learn about two words that seem similar, but have different meanings in physics.

Distance: measurement of the actual path traveled
Displacement: the straight-line distance between 2 points

- If an object travels in one direction in a straight line, distance traveled is EQUAL to the displacement.
- Often, objects do not travel in straight lines (or they move back and forth), so distance and displacement are NOT EQUAL.

Examples:

Bessie the cow and Sally the bird both traveled from point "A" to point "B." Sally traveled in a straight line and Bessie did not.



A. What distance does Bessie the cow travel? *25 meters*
B. What distance does Sally the bird travel? *10 meters*
C. What is Bessie the cow's displacement? *10 meters*
D. What is Sally the bird's displacement? *10 meters*

Teacher: Now let us learn in detail about position, distance and displacement.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Concept of Position	18. Students will be able to define Position.	**Position** Teacher will ask following questions related the position. What is position? Is it 'a measurement from the axis of reference' or is it 'the working of a system'? Why is it important to know the position? Is it 'because it is easy to locate the point or object if we knew the position?	Students will answer the questions asked by the teacher.	The following questions will be presented before the class and students will be ask to complete the sentences.
Concept of Distance	19. Students will be able to	**Distance** We draw the travelling path and define	Students will answer	The following questions will

	define Distance.	distance. The teacher states as he draws that the initial position was A and the final position is K. So the distance is the length of line, AK. The teacher also explains that suppose the point decides to come back to A from K, then the total distance is the sum of lines AK+ AK = 2 AK. The teacher makes the child move his fingers from A to K and explains as he makes the student touch the line, the distance is the length of line AK and so on, as to how the distance would become 2 AK, if the point decided to move back to A. Thus, Distance is the total length travelled by the point. Distance is a scalar measure of the interval between two locations measured along the actual path connecting them. As a scalar it has magnitude only. Δs (italic) is the symbol for distance. *Do you know the distance of mars from the earth?* *Very good.* *The distance of mars from earth is 54.6 million kilometers. It was difficult for human to reach that much far but it is now possible.* *How it been possible?* *Good.* *So due to science and technology, human been successful to reach that much far distance.* *Do you know about the Sunita Williams?* *Who is she?*	the questions asked by the teacher. *-54.6 million kilometeres* *-Due to science and technology* *-Yes* *-She is a famous astronaut*	be presented before the class and students will be ask to complete the sentences. Question: You go from your friend's house to the mall. You travel 1 kilometre. You then go home travelling 3 kilometres. What distance did you travel? '1+3 Kilometres' or '3-1 kilometres'? So, '1+3 is 7' or '1+3 is 4'? • *What is the meaning of determinatio n?* • *Define determinatio n in your own word.* • *Tell the characteristi cs of a person having the value determinatio n*
Concept of Displacement	20. Students will be able to define displacement. 21. *Students will be able to give meaning of the determination .* 22. *Students will be able to*	*Very good.* *So you all are familiar with the famous astronaut Sunita Williams. She was working with NASA and holds records for single space flight by a woman (195 days). But before her this success, she undergone various training including psychological l, learning water and wilderness survivial training. These training were most difficult that all*		

	define the value of determination . 23. *Students will be able to give characteristics of the person having value of determination .*	*persons cannot complete it. But her continuous dedicated efforts in training made her successful no just in training but also for being successful astronaut of the world. This continuous efforts is called dedication and thus we can say that we all can be successful or can achieve our goal if we make continuous efforts for achieving it.* **Displacement** Displacement is the difference in the distance between initial position and final position. xf- xi. Where xf is the final position and xi is the initial position.		
	24. Students will be able to differentiate distance & displacement. 25. Students will be able to solve a numerical problems related to distance and displacement. 26. Students will be able to explain the difference between distance and displacement.	The teacher draws the line –a different one, so that the child is visually stimulated towards the work and not get bored. The teacher explains that H is where the point starts its movement. It reaches the position S. The displacement here is the distance between H and S. But if the point decides to come back to the position H, the final position will be the same as the initial position, that is H. So the total displacement here would be, 0 because xf - xi = 0 The teacher allows the child to feel the line as he explains the same text while the child is touching the line and how it does not matter how much the particles move, but if the xf and xi are the same, the displacement remains to be 0, although the distance travelled may be several kilometres in length. Displacement is a vector measure of the interval between two locations measured along the shortest path connecting them. As a vector it must be stated with both magnitude and direction. Δr (boldface) is the symbol for displacement.	Students will answer the questions asked by the teacher.	**Questions:** You walk around a lake twice starting from your parking spot. The lake is 3 kilometres in circumference. What distance did you travel? '3+3= 6 kilometres' or '3+2= 5 kilometres'? What is the displacement? '6 kilometres' or '0 kilometres'? Why is displacement equal to 0? Because 'the lake is too big' or 'xi and xf' are the same? Which out of the 2 is dependent upon position? 'Displacement' or 'distance'?

Closure Activity:

- Today, we discussed and learnt about Position, Distance & Displacement. Tomorrow we will continue more about different types of motion.

Home Work:

- *Prepare a note on the value of determination taking different examples of well known persons.*

Appendix VI

Lesson Plan I: Value of Honesty

Primary Information:	
Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	5: Structure of Atom
Topic	Neutron
Value integrated	Value of Honesty
Entry Behaviour	Students have the prior knowledge about the neutron.
General Objectives	8. Students will be able to understand about the neutron. 9. Students will be able to understand about neutron. 10. Students will be able to develop the value of honesty. 11. Students will develop interest towards Science.
Method	1. Lecture 2. Questioning
Media	Black board
Approach	Inductive

Introduction:

Teacher: Good morning students!

Students: Good Morning sir

Teacher: What we have discussed in the last period?

Students: Sir we have learnt about the atomic model of Bohr.

Teacher: Good! What is the atomic number?

Students: The number of protons or electrons in neutral atom.

Teacher: Very good! We also learnt about the electrons and protons. Today we will learn about the neutron.

Presentation:

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
• Neutron	• Students will be able to explain about the neutron in their own words.	**Discovery of Neutron:** Rutherford had suggested in 1920 that the element helium (He) after hydrogen (H) has two protons and so its mass should be almost double that of hydrogen but it was found to be about four times.	• Students will listen to teacher attentively. • Students will answer the questions	The following questions will be asked to the students:

	• Students will be able to explain about the discovery of neutron. • Students will be able to find atomic mass of elements. • Students will be able to define valence electrons. • *Students will be able to give meaning of the value of honesty.* • *Students will be able to define the value of honesty.* • *Students will be able to give characteristics of the person having value of honesty.*	So it wsa necessary to know the reason behind the increase in mass. There is a possibility of the existence of particles having mass almost equal to that of proton (1.00833u). these particles are mentioned as neutrons (n). even then, for a number of years there was no direct proof of existence of neutrons. But Chadwick in 1932 doing research on radioactivity discovered this fundamental particle of the atom called neutron. Neutron does not possess any type of electric charge. It is neutral and its mass is almost equal to the mass of proton and is 1939 times more than electron. Hence the mass of an atom of any element is the sum of number of protons and number of neutrons in the nucleus. It is called atomic mass. Therefore, A = p + n *Thus we can say that the atomic mass of any element is honest to the value of its proton and neutron. Same as, in order to get success, you must honest to your life.* *What do you mean by honesty?* *Good.* *Thus, honesty refers to a facet of moral character and connotes positive and virtuous attributes such as integrity, truthfulness and straightforwardness including conduct, along with the absence of lying, cheating, theft etc.* *I will tell you a story. You all listen carefully.* *A strange legend has it that ladybirds forgive but don't forget. Apparently, at first they didn't have their distinctive black spots. The ladybirds had been pushed to the verge of extinction when, while being led by their famous guide, Caius Insectus, a storm flooded the path they were travelling. Caius Insectus disappeared into the flood, and the few ladybirds who survived*	asked by the teacher. *-To be honest to others* • *Students will listen attentively to teacher.*	Give the examples of mixture from your everyday life. *What is the meaning of honesty?* *Define the value of honesty.* *Give the characteristics of a person having the value of honesty.*

		had to choose a new guide and leader. They decided that their new leader would be the first ladybird to successfully travel south to the Great Lake and return to describe it. *Many young ladybirds eagerly launched themselves into this adventure. One by one they returned and told of how beautiful the southern lake was at that time of year, with its crystal clear waters, bordered by flowered meadows. However, the last of the ladybirds was late in getting back. They waited for him for three days, and when he finally returned, he was downcast and embarrassed. He hadn't managed to reach the lake. Everyone criticised him for his slowness and stupidity, and they prepared to continue their journey the next day.* *Following their new guide, they spent a morning walking northwards until they reached some tall thick grassland, where they halted, astonished. In front of them was the Great Lake! But there were no crystal clear waters, or flowered meadows. The heavy rain had turned it into a huge green puddle surrounded by mud.* *Everyone understood what had happened. Without realising it, they had been swept beyond the lake by the flood. When the ladybirds had gone out looking for the lake, they had gone in the wrong direction. Now they could see that, apart from that one late ladybird, they had all wanted to be the Great Guide, and they had not had any qualms to lie in order to get what they wanted. And so, the late little ladybird, the only one who they now really trusted, was made the Great Guide. They also decided that every time one of them was discovered lying they would paint a black spot on that ladybird's back, so there'd be no way to erase it. Nor would a ladybird know how many spots they had on their back. From then on, when a ladybird looks at another's back, it can tell whether that*		

		ladybird is trustworthy. *Likewise, when people show themselves to be dishonest other people paint spots on their impressions of them. It's enough to have just one black spot to change from a simple red insect into a ladybird. So, no matter what the prize may be, we should not allow anyone to paint that spot upon us.* **Valance Electrons and Valency** The electrons present in an atom are arranged in different obits having increase in energy around the nucleus. When electrons are arranged, the electrons in the outermost orbit are responsible for emission spectra and the chemical properties of the elements. They are called valance electrons. The number of electrons in the valence orbit is the valency of the atom. Valency = Number of electrons in valence orbit		

Closure Activity:

2. Today, we have discussed the discovery of neutron. In next lesson we will learn about the isotops and radioactivity.

Home Work:

- Find atomic mass of the elements given in periodic table.
- *Write some examples of the value of honesty from the real life.*

Lesson Plan II: Value of Honesty

Primary Information:	
Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Standard	IX
Subject	Science and Technology
Unit	8: Animal Tissues
Topic	Muscles Tissue
Date	
Value Integrated	Value of Honesty
Entry Behaviour	Students have the prior knowledge about the muscular tissue.
General Objectives	8. Students will understand about the muscular tissue.. 9. Students will understand about the different types of muscular tissues. 10. Students will be able to develop the value of honesty. 11. Students will develop interest towards Science.
Method	8. Lecture 9. Questioning
Media	Black board
Approach	Inductive

Introduction:

Teacher: Good morning students!

Students: Good Morning sir

Teacher: What we have learnt in the last period?

Students: Sir we have learnt about the connective tissues and its types.

Teacher: Well Done! And what about the homework I gave you yesterday?

Student: We have done sir.

Teacher: Good! So are you all ready for learning more about solution?

Student: Yes sir, definitely.

Teacher: The connective tissue joins our various organs and also creating skeletal to give support to body while the muscular tissues are helping in movement of out body parts. Now let us discuss in detail.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
• Muscular tissues and its types	• Students will be able to about the muscular tissue. • Students will be able to give names of different types of muscular tissues.	**Concentration of solution:** Contraction and relaxation of muscle tissue is brought by the movement of different parts of animal body, muscle tissue is made up of specific type of long and contractile fibres. This unit is known as muscle fibre. There are three types of muscle tissue. 1. Smooth muscle 2. Striated muscle 3. Cardiac muscle **1. Smooth muscle** It is involuntary muscles. Their structure is simple as compared to other muscle. Smooth muscle fibres are spindle shaped, unicellular, flat, pointed at both the ends and broad in middle. In the centre of the cell there is single rounded muscles which is surrounded by sarcoplasm. In the cell longitudinal myofibrils are clearly seen. These are fibres contractile in nature hence muscles are contractile. There is no striations as found in strineed muscle and cardiac muscle. This muscles occur in the wall of alimentary canal except anterior and posterior end, ducts of glands, wall of the blood vessels muscle are made up of smooth muscle. Without help of our will the contraction of muscle is very slow, but can remain contracted for long time. The smooth muscle is innervated by autonomic nervous system. **2. Striated muscle** This are also called voluntary or skeletal muscles. Every one of the muscles is in the striped form and every of the muscle stripe is made up of specific type of cylindrical muscle fibres. Around every one of the muscle fibre thin sarcolemma is found. Inside the sarcolemma in sacroplasm many oval nucleus are found. Thus, muscle fibre is called multinucleated cell. In	Students will answer the questions asked by the teacher.	The following questions will be asked to the students: • What is the muscular tissue? • Tell name of different types of muscular tissues? • *What is the meaning of honesty?* • *Define honesty in your own*

		sarcoplasm of every muscle fibres longitudinal myofibrils are found parallel but separate from each other. By looking in microscope, there are dark and light horizontal stripes like lines are found from this it is given the name of striated muscle. Striated muscle, fibres are found in limbs, body wall, tongue and pharynx. On response, the striated muscle has the property of rapid contraction so they become tired and fatigued fast. The movement of these muscles is according to the will and so they are known as voluntary muscles. **3. Cardiac muscle** This muscle is found only in the wall of heart. Its structure is in between as compared to striated and unstriated muscle at some point cardiac muscle fibre is also multi-nucleated like striated muscle. In this muscle, too dark horizontal stripes are found. These muscles are not made up of separate cells, but they are made up of fibres connected with the bridges formed by cytoplasm.. so the muscle fibre seem in branches. Like striated muscle, Nucleus, Sarcoplasm and myofibrils are there in this muscle. Apart from this, thick and dar interrelated discs and property of rhythmic contraction are found in these muscles. This muscle do not exhaust even after working for lifetime constantly without taking rest of single moment and due to contraction and relaxation the heart works as a pump and distribute the blood to various parts of the body.		*word.* • *Tell the characteristics of a person having the value honesty.*
	• *Students will be able to tell the meaning of the value honesty.* • *Students will be able to define honesty.* • *Students will be able to tell*	*What will happen if our body do not possess muscular tissues?* *Good.* *If there is no muscular tissue in our body, then our body could not move. Thus we can say that the muscular tissues are very honest to our body for different movements.* *Tell me what do you mean by*	*-Our body could not move.* *Honesty means keeping our promises.*	

	characteristics of a person having the value of honesty	*honesty?* *Very good!* *You have an idea about the value honesty. It is one of the very important value for human being.* *I will tell you a story about the value of honesty.* *There was once a rich and kindly old man who, reaching the end of his days, decided to leave his possessions to some honest and intelligent young man. Speaking of this decision, he told a good friend that he wanted to choose wisely. The friend advised him,* *"The next time you sell something, and are giving the customer their change, make sure you give them too much. The customer who returns the extra money to you, you will know that they are honest".* *The rich man thanked his friend for the advice, and thinking it a good idea, and easy to carry out, he decided to try it.* *What he did not know was this. One of those present during the conversation – a neighbour who pretended to be his friend, but was really very envious of the rich old man – hired the services of a wizard. He paid the wizard to cast a spell on the rich old man's coins. The spell would mean that anyone who saw coins touched by the old man, rather than seeing them as coins, would see them as that which the customer wanted most in the world.* *With this plan, the envious neighbour believed that no customer would return the old man's change, and, having no one to leave his money to, the old man would leave it all to the neighbour's young nephew.* *Indeed, everything went*	*Students will listen the story.*	

		according to plan for the greedy neighbour, and not a single customer was able to return the enchanted coins. Some saw in these coins the biggest diamond or precious stone, others saw a work of art, some saw a relic, and some saw a miraculous healing potion. When the old man had almost given up trying to find an honest person, the greedy neighbour sent his nephew to the old man's business, taking great care to instruct the boy to return the old man's money. The nephew was determined to do so, but on receiving the enchanted coins he saw in them all the possessions and honours of his own uncle. Believing that what his uncle had told him was a trick, he left with his useless coins and his greed, to no end, since when his uncle learned of this betrayal, he made his nephew banish forever. *The rich old man, sick and depressed, decided to call his servants before he died. He gave them some possessions so that they could live freely when he was no longer with them. Among these servants was a youth, who received some portion of this money by mistake. The youth, raised in the house of the wise and just old man, who he loved like a father, saw, in place of the money, a powerful medicine which would cure the old man, since this was truly what he most wanted in the world. On seeing this, the youth offered the money back to the old man, saying "Take this, Sir, it's for you; it will make you feel better."* *And the return of that simple coin indeed acted like the most miraculous of cures. The old man leapt with joy at having finally found an honest person, and it filled him with joy to find that this honest person had always been in his very own house.* *And so, the young servant went on to manage, with great justice,*		

		generosity and honesty, all the old man's possessions and business concerns. And the old man went on to accompany and advise him like a son for many more years.		

Closure Activity:

2. Today, we discussed muscular tissues. In next lesson we will discuss about the nervous tissues.

Home Work:

- Observe different kinds of muscles tissues and make a comparative note on their shapes and location.
- *What will you do to be an honest person?*

Appendix VII

Lesson Plan I: Value of Common Goal

PRIMARY INFORMATION:

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	7: Plant Tissue
Topic	Tissue Formation
Value integrated	Value of Common Goal
Entry Behaviour	Students have the prior knowledge about cell and cell division.
General Objective	13. Students will understand tissue formation 14. Students will understand growth of the cells 15. Students will develop value of common goal. 16. Students will develop interest towards science and evolution.
Method	11. Lecture 12. Questioning 13. Discovering (Activity performed in groups) 14. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION:

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Before we start our lesson, we will perform an activity.

(Teacher will make two groups in class, one group with only 2 members and other group with 5 members. Each group will be given boxes of coloured beads and teacher will instruct the students of both groups to separate as much as the red coloured beads in just 10 minutes of time. Students of both the groups will start separating the red coloured beads.)

Teacher: Which group has separated maximum no. of beads?

Students: Group 2 sir.

Teacher: Why the group 2?

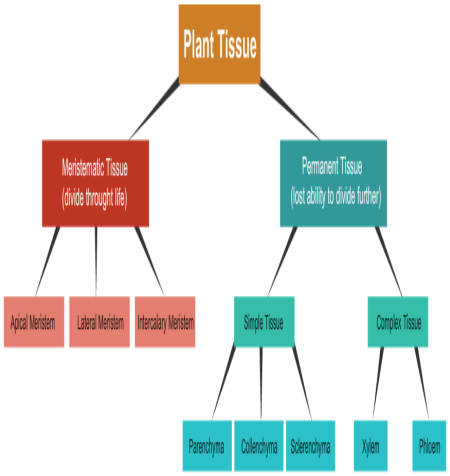
Student: Because group 2 had more members compared to group 1.

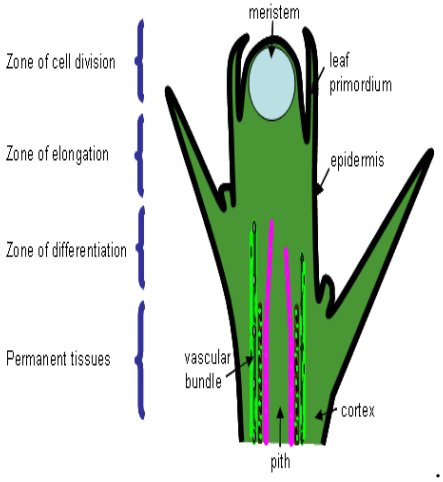
Teacher: That's absolutely right! By increasing the member in the group can lessen the labour, same way in the cells by increasing the divisions the functions get simpler.`

Teacher: Now by this activity, we came to know the value of division of labour, cell division which finally results into tissue formation. So today we will learn about the plant tissue.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Concept of plant tissue	27. Students will be able to define tissue 28. Students will be able to explain about the tissue formation. 29. Students will be able to differentiate cell and tissue 30. Students will be able draw diagram of plant tissue. 31. *Students will be able to give meaning of Common goal.* 32. *Students will be able to define the value of common goal.* 33. *Students will be able to state*	Teacher will ask questions about the cell division to the students to judge their prior knowledge. **Tissue formation** A group of cells having common origin, similar structure and performing a definite function is called a tissue. Tissues are found in plants and animals. *Thus tissues are working for the common function i.e. working for common goal.* *What do you mean by common goal?* *Good.* *So you have an idea about the common goal.* *We should work for the common goal so that we can achieve the success in big task.* *Can you remember the recent campaign launched by our government?* *Very good.* *How we can achieve this goal to make our country clean?* *Very good.* *We cannot achieve this task individually but we all have to work together in terms to make our country clean. We can say that cleaning our country is a common goal that is set and shared by entire our community. Thus, a common goal is a goal that is set and shared by two or more people or entire community.*	Students will answer the questions asked by the teacher. -*Working together for common purpose* -*Clean India* -*We all should work together*	The following questions will be presented before the class and students will be ask to complete the sentences. Which is the structural and functional unit of living organism? 4. What is the function of the cell? 5. What do understand by 'Division of labour' ? 6. Why life functions are important**?** *What do you mean by common goal?* *Define the value of common goal.* *Give the characteristic*

	characteristics of the person having the value of common goal.	*A common goal is that which the group of persons or community hopes to achieve. As such, it need not be an object. The Goal might be a state of mind or enlightenment; a feeling or attitude, a degree or kind of knowledge, desire or ability. Although it is the chief concern, the goal which persons seek is not necessarily a good thing for attaining the goal. Only through the dedicated and hard efforts of all members does the value and accessibility of the goal clarify.* *For achieving our common goal, we should work as a team and the members should be cooperative to each other. We should also responsibility of our individual work in team. This can lead in achievement of common goal which we set.* Plant tissues can be grouped into two basic types: meristematic and permanent tissues  **Meristematic tissue** The main function of meristematic tissue is mitosis. The cells are small, thin-walled, with no central vacuole and no specialized features. Meristematic tissue is located in •the apical meristems at the growing points of roots and stems. •the secondary meristems (lateral buds) at the nodes of stems (where branching occurs) and in some plants, •meristematic tissue, called the cambium, that is found within mature stems and roots. The cells produced in the meristems soon become differentiated into one or another of several types. **1.Apical meristem**		*s of the person having value of common goal.*

		Apical meristem: They are present at the tips of stems, roots, and branches. They are responsible for the axial growth in a plant. **2. Intercalary meristem:** They are present at the base of internodes, and are responsible for the growth of internodal region **3.Lateral meristem:** They are present on the lateral side of stems and roots. Lateral meristem is responsible for the radial growth of plants. Vascular cambium and cork cambium are examples of lateral meristem  		

Closure Activity:

- Today, we discussed and learnt about cell division and tissue system. We will continue types of plant tissue.

Home Work:

- Read the tissue system and its types and explain the role of division of labour in tissue systems?
- *Prepare a note on the common goals that your family or society have set.*

Lesson Plan II: Value of Common Goal

PRIMARY INFORMATION:

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	4: Properties of Matter
Topic	Characteristic of matter
Value integrated	Value of Common Goal
Entry Behaviour	Students have the prior knowledge about the simple permanent tissue.
General Objective	1. Students will understand different types of tissue system. 2. Students will understand simple permanent tissue. 3. Students will develop value of common goal. 4. Students will develop interest towards science.
Method	1. Lecture 2. Questioning 3. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Each thing of this universe is made up of a substance.

What name the scientists have given to the substance?

Student 1: Matter.

Teacher: Good! In how many fundamental elements the matter classified?

Student 2: Five.

Teacher: Very good! Tell the name of five fundamental elements.

Student 3: Air

Student 4: Earth

Student 5: Fire

Student 6: Space

Student 7: Water

Teacher: Excellent! So today we will learn about the characteristic of matter,

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Characteristics of matter	10. Students will be able to state the characteristics of the matter. **11.** Students will be able to give examples of characteristics of matter. *Students will be able to give meaning of common goal.* *Students will be able to define the value of common goal.* *Students will be able to give characteristics of the person having value of common goal.*	Teacher will give following activities of matter and will ask these questions to the students and will derive the characteristics of matter. **Activities:** 1. Prepare Ziplock bags. In one bag have a rock, fill ano**ther** full of colored liquid and inflate the third full of air. Put them in a paper bag so the students can't see them, heightening their curiosity as you take each one out. 2. Take out the bag with the rock and have students describe what is in the bag. Have them describe its shape, weight and hardness. Ask if it takes up space. Take it out of the bag and let5 students examine it. Ask if its shape changes. Demonstrate that it does not and explain that it and the table are both SOLIDS. Write the word SOLID on the board under MATTER. 3. Take out the bag of LIQUID and have the students describe it. Again have them describe its shape, weight and hardness. Ask if it takes up space. Ask what will happen if you open the bag and tip it. Open the bag and pour some into the cup and ask if the shape has changed. Ask what will happen if you pour a little on the table. Do this and ask how the shape has changed. Note how it spreads out in all directions (if the table is level). Introduce the term LIQUID and write it on the board. 4. Take out the bag of air and	Students will answer the questions asked by the teacher.	The following questions will be asked to the students. Which are the five fundamental particles? . What are the characteristics of matter? *What do you mean by the common goal?* *Define the value of common goal.* *Give the characteristics of the person having the value of common goal.*

		have the students describe it. Since GASES are usually invisible, students may at first think that there is nothing in the bag and some demonstration is useful before having them describe it. Show them there is something in the bag keeping the sides of the bag from touching each other. Pass around the bag and let them feel it. Ask if anyone knows what is in the bag. If no one does, ask what is in a balloon. Discuss that the bag is full of air. Ask if air takes up space. Ask what will happen if you open the bag. Do it and let most of the air escape. Ask them what happened to it. Ask if it changed its shape. Explain that air is moving all around us but that it is invisible. Talk about how we breathe it all the time. Have everyone take a deep breath and blow on their hand to feel the air. Ask what will happen if you blow into the bag.Inflate the bag and show them that you can fill the bag with it. Introduce the term GAS and write it on the board. **Characteristics of matter** 1. There is space between particles of the matter. When one substance mixes with the other or dissolves in a solvent and forms a solution, these small particles are arranged in this space of substances. 2. the particles of the matter are continuously moving. This can be proved by certain activities. They are continuously moving because they posses kinetic energy. With the increase in temperature, their kinetic energy increases. The particles of the matter can mix into with each other on their own because there is space between them. This		

		phenomenon is known as diffusion of particles. With the increase in temperature, the rate of diffusion increases and so the matter dissolves easiy and faster in hot solvents. 4. The particles of matter attract each other. There is attractive force between particles which keep them together. If we move from one type of matter to other type, the strength of this attractive force changes. *Thus all the matter has common characteristics and working for the common purpose.* *What do you mean by the common goal?* *Good.* *We all should have the value of common goal.* *I will tell you a story on value of common goal. You all listen carefully.* *In a small town, there were two uncommon high school cricket teams. Team A had most of poor and weaker section children of public school and the other team B had most of upper middle class children of private school. The upper middle class children always harassed to the members of team A.* *Once there was a inter-district tournament of cricket match and both the teams participated. The Team A member been together and forgot their own conflict and they set their goal to win the match and preparing for this goal only. This was the simple cricket match ut for team A, it*	*-Working for common purpose* *Students will listen attentively to the teacher.*	

		was an uncommon game that draws the whole student community together in which winning is important. An uncommon game where respect, effort, and love for your opponent is most important that the team A members wanted to receive. *The school principals had also taken interest in the game. The students of public school did prayers and fasting for the win of their team. When the match day arrived, the team A put hard efforts for win and due to their commitment and hard efforts they not only won the match against the team B but also won the hearts of the members of team B.* *This was the result of their common goal to win the match and preparing hard for win and grabbing opportunities in the match.*		

Closure activity:

- Today, we learnt about the characteristics of matter. In next lesson we will learn about the classification of matter.

Home Work:

- Write different examples of characteristics of matter.
- *If you are asked to set common goal for your class, which common goal would you set for your class and how you can achieve that common goal?*

Appendix VIII

Lesson Plan I: Value of Discipline

PRIMARY INFORMATION:

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	1: Motion
Topic	Uniform Motion
Value integrated	Value of Discipline
Entry Behaviour	Students have the prior knowledge about Position, Distance and Displacement Students have the prior knowledge of value: discipline
General Objectives	17. Students will explain their understanding of Uniform Motion 18. Students will explain their understanding of Speed, Average Speed and Uniform Speed. 19. Students will develop value of Discipline. 20. Students will develop interest towards Science.
Method	4. Lecture 5. Questioning 6. Discovering (lab activity performed in groups) 7. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION:

Teacher: Good morning students!

Students: Good morning sir!

Teacher: What we have learnt in our previous period?

Students: About the position, distance and displacement.

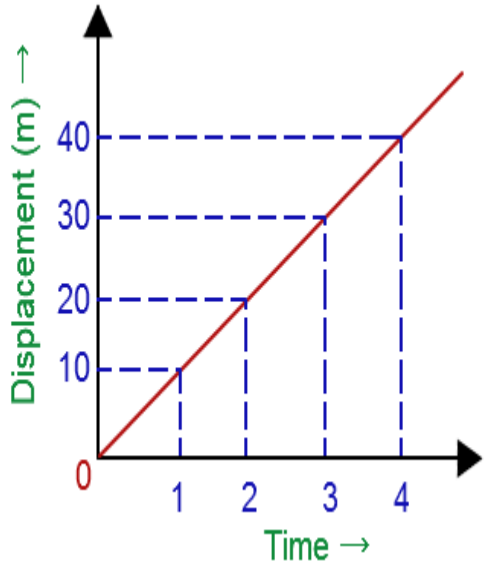
Teacher: Good! I will assign you a task, where you have to note different types of motions observed.

(Teacher will inform to students to take out blank pieces of paper and write the different types of motion like speeding up, slowing down, and standing still they observed. Each time there will be a change in motion, example speeding up than slowing down; students need to record this on

their paper. Students will continually record the observation. When the observation reading is done, students are to discuss what types of motion they saw. At the end, teacher will ask students discuss about uniform motion if they observed.)

Teacher: Now let us learn in detail about uniform motion.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Concept of Uniform motion	1. Students will be able to define uniform motion. 2. Students will be able to explain about the uniform motion with suitable examples. • *Students will be*	**Uniform motion** A motion which covers equal distance in equal interval of time is called a Uniform motion. For the body to be in the uniform motion, it must be moving in the straight line path.  The above graph shows, in every one second, there is a displacement of 10m. The body going with constant increase in velocity in equal interval of time is also the uniform motion The slope of displacement-time graph for uniform motion is constant and gives constant velocity. **Slope =** *dY/dX = displacement/time* **Velocity (V) =** *dt*, is constant *Thus the uniform motion is based on the equal distance in equal interval of time. If time or*	Students will answer the questions asked by the teacher.	The following questions will be presented before the class and students will be ask to complete the sentences. Question: A vehicle running at a constant speed of 10m/sec ,will cover equal distances of 10metres every second, so it is called..... • *What is the meaning of discipline?* • *Define discipline in your own word.*

	able to give meaning of value of discipline. • *Students will be able to define the value of discipline.* • *Students will be able to tell characteristics of a person having the value of Discipline* .	*distance is unequal then there will be no uniform motion. It means that it is according to the rule which is laid down for guiding the motion that lead perfect result. If we too live our life according to the rules then we too can get perfect result our actions. If we do our actions according to the certain rules or principles laid down for guiding us in the right direction/path.* *What is discipline?* *Good!* *What will happen to the person who is indiscipline?* *Very good.* *The value of discipline leads to harmony whereas indiscipline leads to confusion. Thus discipline is the key-note of the worldly order. We can say that universe rests on discipline. The planets do not collide with one another but move along their orbits according to rules there are flood tide and ebb-tide in the sea according to rules; bodies left unsupported fall to the ground according to rules, the blows, the river flow, the flower blooms, the fruits ripen and fall all according to rules. If there were no observance of rules, the world would have been a veritable hell of chaos and confusion. If the mother did not look after the children, if the children did not obey their parents, if the people did not obey the laws of the country, the world would have been a melting pot.* *So we all should possess the value of discipline for harmony in our life. Discipline works everywhere, it controls our physical movement and activities, our morals and even our religion. There is no sphere on earth and heaven where discipline does not dominate.*	*-Living our lives according to some principle or rules.* *-He will be confused in different stages of life.* *-There will be no harmony in his life.*	• *Tell the characteristics of a person having the value discipline.*

Closure Activity:

- Today, we discussed and learnt about uniform motion. In next lesson, we will learn about the non-uniform motion.

Home Work:

- Prepare a note on uniform motion by taking daily life examples.
- *Write some examples of the value discipline.*

Lesson Plan II: Value of Discipline

Name of the Teacher	Shivekumar Dubey
Name of the School	Vidyakunj High School
Grade Level	IX
Subject	Science and Technology
Unit	1: Motion
Topic	Non-uniform Motion
Value integrated	Value of Discipline
Entry Behaviour	Students have the prior knowledge about uniform and non-uniform motion.
General Objective	12. Students will understand different non-uniform motion. 13. Students will develop value of discipline. 14. Students will develop interest towards Science.
Method	15. Lecture 16. Questioning 17. Discovering (Activity performed in groups) 4. Cooperative Learning
Media	Black board
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

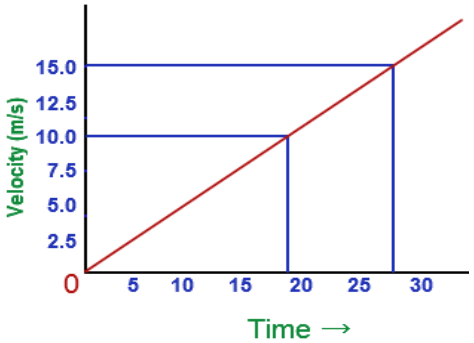
Students: Good afternoon sir!

Teacher: What we have discussed in our previous period?

Student 1: About the uniform motion.

Teacher: Good! Before we start our today's lesson, we will perform an activity. Take one black pieces of paper and write the different types of motion. *Teacher will walk in speed, will slow and then will stand. Students will observe the motion of teachers activity and will record their observation about the motion. After the observation, the students will discuss what types of motion they saw. At the end of the task, teacher will ask to students about the types of motion*). So today we will learn about the non-uniform motion.

PRESENTATION

Teaching Points in sequential order	Specific Objectives in Behaviour Term	Teacher's Activity	Pupil's Expected Activity	Evaluation
Concept of non-uniform motion	3. Students will be able to define non-uniform motion 4. Students will be able to solve numerical problem related to uniform and non-uniform motion. 5. Students will be able to explain the difference between Uniform and Non-Uniform Motion • *Students will be able to give meaning of value discipline.* • *Students will be able to define the value discipline* • *Students will be able to tell characteristics of a person having the value of Discipline.*	**Non-Uniform motion** Non-Uniform Motion:- A body is said to have a non- uniform motion if it travels unequal distances in equal intervals of time, no matter how small these intervals may be. Eg. A freely ball from a certain height covers unequal distances in equal intervals of time, so its motion is non uniform. Non uniform motion is also called accelerated motion.  The V-t graph for uniform motion gives the constant acceleration. The slope of uniform motion of V-t graph gives acceleration. Slope = *dYdX* = *dvdt*, gives acceleration. The SI unit is m/s^2. *Thus, same as the uniform motion, non-uniform motion is also based on the equal interval of time. It means that it is according to the rule which is laid down for guiding the motion that lead perfect result no matter how small the intervals may be. Our life is also guiding principles of the rules that lead our actions. Disciplined life leads a good life.* *What do you mean by discipline?* *Good!* *Discipline should be maintained in every walk of life. At home we are to observe discipline. We cannot rear up good children, if there is no discipline. A house, where there is no discipline, is just like a hell. So discipline should be enforced on children at home. They should be made to feel that discipline is a blessing and indiscipline is a curse. Discipline*	Students will answer the questions asked by the teacher. *-Quality of certain principles or*	The following questions will be presented before the class and students will be ask to complete the sentences. Question: A vehicle running at a constant speed of 10m/sec ,will cover equal distances of 10metres every second, so it is called..... **Question:** A freely ball from a certain height covers unequal distances in equal intervals of time, is called..... • *What is the meaning of discipline* • *Define discipline in your own word.* • *Tell the characteristics of a person having the value discipline.*

		leads to and prosperity whereas indiscipline leads to unhappiness and disgrace. The home, infect is the first place to teach the value of discipline. *The discipline instilled into the character of child at home is further improved in the educational institution where everything takes place according to rules. The classes meet according to schedule, and according to schedule the students pass or fail according to rules; everything here rest on discipline. And punishment is given those who go astray or are indiscipline. No life is worth living and is of any value which is not orderly and disciplined. Coming out from educational institutions, children enter the world of practical life. Here the same discipline with greater rigor dominates all human activities. Those who obey rules and conduct their life accordingly are happy but those who violate are unhappy and suffer. Thus we should live disciplined life i.e. according to rule otherwise we also will suffer and our lives will be unhappy.* **Some examples of uniformly accelerated motion:** • The motion of a free falling body. • The motion of a bicycle going down the slope of a road when the rider is not pedaling and wind resistance is negligible. • The motion of a ball rolling down an inclined plane. • The motion of the Pendulum Clock.	*rules.*	

Closure Activity:

- Today, we have discussed and learnt about the non-uniform motion. In next lesson, we will learn about the law of motion.

Home Work:

- Differentiate between uniform and non-uniform motion.
- *Prepare a note on the value of discipline of great leaders and compare their characteristics.*

Appendix IX

Lesson Plan 1: Value of Loyalty of Duty

Name of the Teacher	Shive kumar Dubey
Name of the School	Vidhya kunj High School
Grade Level	IX
Subject	Science and Technology
Unit	3: Gravitation
Topic	Gravitation
Value integrated	Value of Loyalty of Duty
Entry Behaviour	Students have the prior knowledge about force.
General Objective	1. Students will be able to understand the gravitation force. 2. Students will be able to understand different type of force. 3. Students will be able to develop the value of loyalty of duty.
Method	1) Lecture 2) Questioning 3) Cooperative learning
Media	Blackboard
Approach	Inductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Before we start a lesson, we will perform an activity. Teacher will throw a chawlk in upward direction but it suddenly comes back on earth.

Teacher: Why the chawlk came back on earth?

Student: Due to gravity.

Teacher: Good! A force is attract that chalk and this force is called attraction force due to that chalk comeback on earth.& this attraction force on things is also called gravitational force. Today we will learn about the gravitation in details.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Gravitational force	1. Students will be able to define gravitational force	Teacher will explain gravitational force. Gravitational force is the force of attraction between all masses in the universe; especially the attraction of the earth's mass for bodies near its surface;	Students will listen to the teacher and will answer the questions asked by the teacher.	What is gravitational force?
Examples of gravitational force	2. Students will be able to give examples of gravitation force.	Examples of Gravity: 1. When you hold a ball up in the air, the mass of Earth allows the ball to fall to the Earth. 2. If the moon stopped revolving around the Earth, the mass of the Earth would pull the moon to the Earth. 3. If there was no larger mass around us, then a pencil would be attracted to our body because our body has a larger mass. 4. As the moon revolves around the Earth, its gravitational attraction causes the Earth to change shape just enough to cause the water in the oceans to move in and out forming tides. 5. If the sun were smaller in mass, then the Earth would slingshot out of its orbit and go hurdling into space.	Students will listen to the teacher and will answer the questions asked by the teacher.	Give examples of gravitational force.
Newton's law of universal gravitation	3. Students will be able to explain the universal law of gravitation 4. *Students will be able to tell the meaning of the value loyalty of*	Newton's law of universal gravitation extends gravity beyond earth. Newton's law of universal gravitation is about the universality of gravity. All objects attract each other with a force of gravitational attraction. Gravity is universal. *Thus we can say that all objects perform their duties as per natural laws we can just imagine that what would happen if sun, moon and earth wont perform their duties.* *Tell me what would happen if the sun won't rise?*	Students will listen to the teacher and will answer the questions asked by the teacher. *Student 1: We will have to use the electricity*	Explain Newton's law of universal gravitation. *What would happen if the*

	duty. 5. *Students will be able to define loyalty of duty.* 6. *Students will be able to tell characteristics of a person having the value of loyalty of duty.*	*Very Good!* *So all the natural objects like sun, moon, stars, earth are performing their natural duties without fail and without seeing their personnel interest or benefits for the humans and other living creatures. These means they are loyal to their duty. We also should be loyal to our duties without seeing our personal interest or benefit. Thus, we can say that loyalty of duty is performing our duty without seeing our interest or benefit.* Newton's law of universal gravitation states that any two bodies in the universe attract each other with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them. Newton's conclusion about the magnitude of gravitational forces is summarized symbolically as $F_{grav} \propto \frac{m_1 * m_2}{d^2}$ where F_{grav} represents the force of gravity between two objects $\propto$ means "proportional to" m_1 represents the mass of object 1 m_2 represents the mass of object 2 d represents the distance separating the objects' centers Since gravitational force is inversely proportional to the square of the separation distance between the two interacting objects, more separation distance will result in weaker gravitational forces. So as two objects are separated from each other, the force of gravitational attraction between	*double than the normally we use.* *Student 2: Price of the electricity will go hike.* *Student 3: It will impact to all humans as well as other living orgasms including trees and plant.*	*sun wont perform his duty to rise every morning?* *What is the meaning of loyalty of duty?* *Define the value loyalty of duty in your own words.* *Tell the characteristics of the person having value of loyalty of duty.*

		them also decreases. Another means of representing the proportionalities is to express the relationships in the form of an equation using a constant of proportionality. This equation is shown below. $F = G \cdot m_1 \cdot m_2/d^2$ The constant of proportionality (G) in the above equation is known as the **universal gravitation constant**. The precise value of G was determined experimentally by Henry Cavendish in the century after Newton's death. The value of G is found to be **$G = 6.673 \times 10^{-11}$ N m^2/kg^2**		

Closure Activity:

- Today, we have discussed and learnt about gravitation & Universal law of gravitation. In next lesson we will learn more about gravitation.

Home Work:

- Write two examples of gravitational force.
- *Write some examples of loyalty of duties.*

Lesson Plan II: Value of Loyalty of Duty

Name of the Teacher :	Shivekumar Dubey
Name of the School:-	Vidyakunj High School
Grade Level	IX
Subject:	Science and Technology
Unit:	9: Why do we fall ill?
Topic:	Health and Disease
Value integrated	Value of Loyalty of Duty
Entry Behaviour:	Students have the prior knowledge about heath and disease.
General Objective:	21. Students will be able to understand the importance of mainlining health. 22. Students will be able to understand the diseases and its types. 23. Students will develop value of loyalty of duty. 24. Students will develop interest towards Science evolution.
Method:	8. Lecture 9. Questioning
Media :	Black board
Approach:	Deductive

INTRODUCTION

Teacher: Good afternoon students!

Students: Good afternoon sir.

Teacher: What we learnt about in our previous unit?

Student 1: About plant and Tissue.

Teacher: In organs or tisses of our body, various specific kinds of activities go on like brain thinks, kidney filters blood and lungs repairs etc. All these activities are interrelated. If any of the activities disturbed then the other organ or tissue won't perform its activity properly. To perform all these interrelated activities and to maintain the activities of the cell and tissues of our body, the essential energy is obtained from food.

. Why we are taking food?

Student 2: To maintain healthy body.

Teacher: Good! If we take unhealthy of non-hygienic food then what will happen to our body?

Student 2: Our body will suffer from disease.

Teacher: Very good! So today, we will learn about the health and diseases.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Concept of Health Disease and its causes	34. Students will be able to explain the importance of maintaining health. 35. Students will be able to explain about the disease and its causes in their own words.	**Health** In our culture, when people meet each other they start conversation by asking about the well-being of health. Thus, the good health means physical, mental and social well-being. Our health depends on the surrounding environment. We are living in villages, towns and cities. Local agencies like municipality taking responsibility to maintain the cleanliness of the places in the city. Just imagine, what will happen if no one take care of	Students will answer the questions asked by the teacher.	The following questions will be presented before the class and students will be ask to complete the sentences. Question: 5. What is a meristematict issue ? 6. Which are the types of meristematic

	36. Students will be able to identify the causes of diseases. 37. *Students will be able to give meaning of loyalty of duty.* 38. *Students will be able to define the value of loyalty of duty.*	collecting disposal of the garbage or cleaning the drains? Good! Therefore, public cleanliness is very much important for the maintenance of individual health. *Our government made effort to make our cities, states and nation clean by implementing the SWACHHTA ABHIYAN scheme. It is our duty to maintain cleanliness of the places where we live, we study, we work and we live. In other words, we should loyal to our duty.* *What do you mean by loyalty of duty?* *Very good!* *Loyalty of duty is the faithfulness to commitments of work or obligations to duty.* *I will tell you a story, you all listen carefully.* *There were two schools A and B located in same region and the teacher-student ratio and facilities were same in both the schools. But the company A always performed better in entire region in terms of students result in curricular as well as co-curricular activities while the school B could not achieve desired success despite of having same facilities of school A. The principal wondered for this and he decided to visit the school A in terms to know the reasons of the continuous success of school A. When the principal visited to school A, all the staff and students greeted him. He observed that all staff and*	The garbage and chocked drains will spoil our health *It is the state or quality of being loyal to our duty.*	tissues? 7. State the Functions of each type of meristematic tissues. *What do you mean by loyalty of duty?* *Define the value of loyalty of duty. Give characteristics of the person having value of loyalty of duty.*

		students working together and performing their duty very honestly i.e. they all are loyal to their duty. *When the principal asked to school A principal about the continuous success of his school then the principal of school A replied that whatever the work provided to their staff, teachers and students, they accept the work whole heartedly and being loyal to their duty. The students are being trained as per their interest area in leisure time. Teachers motivates to students for working hard in terms to achieve success and the teachers always being ready to help the students at any time.* *The next day when the principal of school B visited his own school, he found that many teachers are ignoring other duties than teaching. Even students wasting time to roam here and there in their leisure time. Staff members are also gossiping in staff room during their leisure time. After seeing these all, the principal of school B came to know that the teachers, staff and students are not loyal to their duty which is affecting the result of their school.*		

Closure Activity:

- Today, we have learnt about the health, diseases and its causes. In next lesson we will learn about the different types of diseases.

Home Work:

- Survey of your residential area and find out the places that could lead diseases and write your possible solutions for that.
- *Prepare a note on the loyalty of duty of great leaders.*

Appendix X

Lesson Plan I: Value of Team Work

Name of the Teacher :	Shive kumar Dubey
Name of the School:-	Vidhya kunj High School
Grade Level	IX
Subject:	Science and Technology
Unit:	Force and Laws of Motion
Topic:	Force and its types
Value integrated	Value of Team Work
Entry Behaviour:	Students have the prior knowledge about force.
General Objective:	1. Students will be able to understand about the force. 2. Students will be able to understand about the balanced and unbalanced force. 3. Students will be able to develop the value of team work. 4. Students will develop interest towards science.
Method:	4) Lecture 5) Questioning 6) Cooperative learning
Media:	Blackboard
Approach:	Inductive

INTRODUCTION:

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Before we start our lesson, we will perform an activity.

(Place a lit incense stick in a room. Carefully observe the movement of smoke coming out of it.)

Can you tell which force is changing the direction of movement of smoke?

Student 1: Force of moving air.

Teacher: Good! What happens to a rubber sponge when one squeezes it in his hand?

Student 2: Shape of sponge changes.

Teacher: Very Good! What happens to a spring when one stretches it from both the sides?

Student 3: The spring expands.

Teacher: Splendid! Thus, in simple words force is something which is capable of changing the shape, size, position, speed or direction of motion of a body. So today, we will learn about the force and its types.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Force Balanced and unbalanced force	7. Students will be to define force. 8. Students will be able to explain balanced and unbalanced force. 9. *Students will be able to give meaning of team work.* 10. *Students will be able to define the value of team work.*	After entering the class teacher will explain balanced and unbalanced Force with the help of example; Have you ever played the game of tug of war? In this game, if both The teams are equally strong and pull the rope with equal force, then the position of handkerchief remains stable and forces are said to be balanced forces. However, if one team is stronger and pulls the rope with more force than the other team, then the handkerchief will move towards the stronger team and forces are said to be unbalanced forces. *So the team work can lead success in any work. We all should have the value of team work.* *What is team work?* *Good!* *I will tell you a story. You all listen carefully.* *Once there was a race for handicapped children, with one gold medal to be won. The race started, and was only 100 meters. There were seven children competing for that one gold medal. Soon after the race began, the last place runner fell down. Without hesitation, the sixth child stopped to pick up the seventh. Seeing the sixth had stopped, the fifth also stopped. And so did the fourth...They all forgot that the race was for one gold medal. Instead, they all teamed together, and ran*	Students will answer the questions asked by the teacher. *Team work is working as a team.* *Students will listen attentively.*	Teacher will ask more examples related to balanced and unbalanced forces. *What do you mean by team work?* *Define the value of team work.* *Give characteristics of the person having value of team work.*

		through the finish line hand-in-hand. The race organisers decided, then and there, to give them seven gold medals. They had never before seen such teamwork and the stands full of spectators agreed; The admirable handicapped children got a well-deserved standing ovation. If the magnitude of the resultant force of all the forces acting on a body is zero, then the forces are called balanced forces. However if the magnitude of the resultant force of all the forces acting on a body is non zero then the forces are called unbalanced forces.		
First law of motion	**11.**Students will be able to explain about the first law of motion.	**First law of motion.** "An object in motion tends to stay in motion unless an external force acts upon it. Similarly, if the object is at rest, it will remain at rest unless an unbalanced force acts upon it. Newton's First Law of Motion is also known as the Law of Inertia." Since an external force is required to change the state of rest or of uniform motion of an object , this means that all objects resist the change in their state of rest or of uniform motion . This property of a body by virtue of which it resist any change in its state of rest or uniform motion in a particular direction is called inertia . Then to make the concept more clear teacher correlate the law with the examples of our daily life.		

Closure activity:

- Today we learnt about balanced and unbalanced force. In next lesson we will learn about the laws of motion.

Home work:

- Write daily life examples of balanced and unbalanced forces.
- *Write some examples of team work that resulted success in big task in your family or society.*

Lesson Plan II: Value of Team Work

Name of the Teacher :	Shivekumar Dubey
Name of the School:-	Vidyakunj High School
Grade Level	IX
Subject:	Science and Technology
Unit:	Force and laws of motion
Topic:	Momentum and Second Law of Motion
Value integrated	Value of Team Work
Entry Behaviour:	Students have the prior knowledge about inertia. Students have the prior knowledge of first law of motion.
General Objective:	15. Students will be able to understand the momentum. 16. Students will be able to understand the second law of motion. 17. Students will be able to develop the value of team work. 18. Students will develop interest towards Science.
Method:	18. Lecture 19. Questioning 20. Discovering (Activity performed in groups) 4. Cooperative Learning
Media :	Black board
Approach:	Inductive

INTRODUCTION:

Teacher: Good afternoon students!

Students: Good afternoon sir!

Teacher: Why do you fall in the forward direction when a moving bus brakes to a stop?

Student 1: Because of oppose in the change of moving state.

Teacher: Good! This is because of the first law of motion that we learnt in our previous period.

(*Teacher will take two balls of the same size, one made up of plastic and the other made up of hard cork and will ask question to students*)

Which ball will cause more damage when it hits the spectator with the same force?

Student 2: Hard cork ball.

Teacher: Very Good! Why hard cork ball and not a plastic ball?

Student 3: Because hard cork ball has more mass than the plastic ball.

Teacher: Excellent!

(*Teacher will take two similar balls of same size and made up of same material and will throw the balls with different forces.*)

Now the impact of which ball will be more and why?

Student 4: The ball thrown with a larger force will cause more damage because it moves with greater velocity than the ball thrown with a smaller force and thus moves with lesser velocity.

Teacher: Splendid! These examples show that the impact produced by a moving object depends on both the mass and the velocity of an object. The quantity which describes the impact of both these quantities is called momentum. So, we will learn about the momentum and second law of motion in this period.

PRESENTATION

Teaching Points in sequential order	**Specific Objectives in Behaviour Term**	**Teacher's Activity**	**Pupil's Expected Activity**	**Evaluation**
Momentum & Second law of motion	1. Students will be able to define momentum 2. Students will be able to explain second law of motion. 3. Students will be able to solve different examples related to momentum and second law of motion.	Teacher will explain the momentum and second law of motion with illustration: The momentum of a body of mass m moving with a velocity v is defined as the product of its mass and velocity. It is denoted by the symbol p. P = mv *Thus we can say that product of the mass is the result of team work of velocity and*	Students will answer the questions asked by the teacher.	Paper pen test of numerical based on momentum and second law of motion: 1. Calculate the momentum of a man of mass 60 kg running at a uniform velocity of 5 m/s. 2. A bus of mass 450 kg is

	4. *Students will be able to give meaning of team work.* 5. *Students will be able to define the value of team work.*	*mass. If there is no velocity of mass then we cannot get product of the mass. Same as for the production of things, we need team work of different persons. Different inventions in the world are also the result of team work.* *What do you mean by team work?* *Very good!* *By cooperation among the team members achieve what individual cannot. This is the greatest advantage of team work. E.g. The cricket team of Australia achieved many successes in the cricket matches because their team does not depend on the individual player but they are depends on team work. Thus, the team work has many advantages like:* *-It is more efficient,* *-It takes advantage of multiple skill sets,* *-It's faster* *-It promotes friendly pressure to get done work on time,* *-The work does not depend on individual,* *-We can take advantage of ongoing feedback,* *-It increases learning opportunities,* *-It can solidify accountability,* *-It lets people share the lows and highs, and* *-It promotes synergy.* *Most of people think team work only in sports but team work is vital in human achievement at all levels including business and society. Team work is one of the chief hallmarks of human accomplishment and may represent a prerequisite for civilization and human-level*	*Working together for achieving desired success in work.*	heading towards a bus stop with a momentum of 4500 kg m/s. Calculate the velocity of the bus. 3. How much force must be applied on an object of mass 5 kg to accelerate it to a value of 5 ms^{-2} ? *What do you mean by team work?* *Define the value of team work.* *Give the characteristics of the person having value of team work.*

		intelligence. The greatest civilization have always been those that encouraged a greater level of cooperated team work from their citizens. The SI unit of momentum is kg m/s The second law of motion states: "When a force acts on an object, it will cause the object to accelerate. The larger the mass of the object, the greater the force will need to be to cause it to accelerate". Another way to state the Second Law is to say it takes more force to move a heavy object than it does to move a light object. Mathematical formulation of second law of motion: F = ma The second law of motion is often seen in action in our daily life. In a high jump athletic event, the atheletes are made to fall either on a cushioned bed or on a sand bed. This is to increase the time of the atheletes fall to stop after making the jump. This decrease the rate of change of momentum and hence the force.		

Closure activity:

- Today we learnt about the momentum and second law of motion In next lesson we will learn about the third law of motion.

Home work:

- Write different examples on second law of motion.
- *Prepare a note on the big task that you want to achieve through team work in your class or school.*

APPENDIX XI

Value Conceptual Knowledge Test

Student Name: _____ **Date:**
Standard: IX **Marks: 100**

Q-1: What do you mean by Co-operation?

_____
_____

Q-2: Define Co-operation.

_____
_____

Q-3: To whom you can say as a Co-operative?

_____
_____

Q-4: State any five characteristics of Co-operation.

_____
_____

Q-5: Give any two example of Co-operation.

_____
_____

Q-6: What do you mean by Equality?

_____
_____

Q.7 Define Equality.

_____
_____
_____

Q.8 To whom you can say as a Equality?

Q.9 Five characteristics of Equality.

Q.10 Give some example of Equality.

Q.11 What do you mean by Simplicity?

Q.12 Define Simplicity.

Q.13 To whom you can say as Simplicity?

Q.14 Five characteristics of Simplicity.

Q.15 Give some example of Simplicity.

Q.16 What do you mean byDignity of labour?

Q.17 Define Dignity of labour.

Q.18 To whom you can say as a Dignity of labour?

Q.19 Five characteristics of Dignity of labour.

Q.20 Give some example of Dignity of labour.

Q.21 What do you mean by Determination?

Q.22 Define Determination.

Q.23 To whom you can say as a Determination?

Q.24 Five characteristics of Determination.

Q.25 Give some example of Determination.

Q.26 What do you mean by Honesty?

Q.27 Define Honesty.

Q.28 To Whom you can say as a Honesty?

Q.29 Five characteristics of Honesty.

Q.30 Give some example of Honesty.

Q.31 What do you mean by Common goal?

Q.32 Define Common goal.

Q.33 To Whom you can say as a Common goal?

Q.34 Five characteristics of Common goal.

Q.35 Give some example of Common goal.

Q.36 What do you mean by Discipline?

Q.37 Define Discipline.

Q.38 To Whom you can say as a Discipline?

Q.39 Five characteristics of Discipline.

Q.40 Give some example of Discipline.

Q.41 What do you mean by Loyalty of Duty?

Q.42 Define Loyalty of Duty.

Q. 43 To Whom you can say as a Loyalty of Duty?

Q.44 Five characteristics of Loyalty of Duty.

Q.45 Give some example of Loyalty of Duty.

Q.46 What do you mean by Team work?

Q.47 Define Team work.

Q.48 To Whom you can say as a Team work?

Q.49 Five characteristics of Team work.

Q.50 Give some example of Team work.

APPENDIX XII

Value Perception Test

Student Name: _____ Date:
Standard: IX Marks: 200

CO- OPERATION

1. In your flats, there is repairing of water tank going on in flats. So, there is restriction on water supply. Your neighbors have more no. of members & you have less no of member. They want water from you, what would you do?

a. You will give some water. ☐
b. You would refuse his demand. ☐
c. You give idea for extra water tank & financial you help. ☐
d. You suggest him to meet the secretary to solve the problem. ☐

2. Ram & Shyam are close friends. Shyam is weak in study so he copies from notebook of ram. New Shyam & Ram gotten a project & he want help from Ram to prepare the project. So, what should Ram do?

a. Ram will co-operate & prepare his project. ☐
b. Ram refuses his request. ☐
c. Ram will prepare his project but tell about to teacher. ☐
d. Ram will co-operate but not similar to own project. ☐

3. There is marriage on the neighborhood. They have hired D.J. you have exam. Now how you would manage your study as well as co-operate with your neighbors?

a. You would change the place during that time & go your friend home. ☐
b. You would request him to play slow sound D.J. ☐
c. You will study at your home & close all gates window. ☐
d. You would complain against him in police station. ☐

4. Your family had gone on some tour to Manali. Due to heavy snowfall the highway are blocked & due to that hotels are full but hotel manager say that if you want share with other family then I can arrange & that family belong to other religion. What do you think you would do?

a. You would be friendly with tem & feel comfortable. ☐
b. You refuse his idea for sharing room. ☐
c. You stay together but no interaction with them. ☐
d. Try to have healthy interaction. Try to gain & share knowledge & experience about trip & principles of each other religion. ☐

5. There is an agreement on tread relation bet^{n} your country & neighboring country. But relationship bet^{n} 2 country is not corrdid. To improve political & economic conditions & relation trade treaty is to be signed. What do you think, should your country sign treaty to increase co-proration.

a. Sign treaty ☐
b. Not sign treaty ☐
c. Sign on benefit of both countries. ☐
d. Sign on benefit of own country. ☐

DIGNITY OF LABOR

1. In your school the collector of your city is invited for a speech. Your school to be cleaned but the sweeper association has declared strike to increase their salary. Now teacher has assigned you the task of clearing the School. What would you do?

a. Help in clearing school ☐
b. Refuses the teacher's order ☐
c. Encourage the all student's for helping ☐
d. Request the sweepers to take back the strike. ☐

2. If your maid is not well what will you do?

a. I will tell her to take leave & go to doctor. ☐
b. I will call some one else for temporary work. ☐

c. I will help to her for finishing work.
d. I will not give leave.

3. You went to restaurant for dinner but see their lower boy is working over their. What will you do?
a. I will ignore.
b. I will pay extra tip to that boy.
c. I will inform to human right regarding that.
d. I will take to owner that the boy is minor so can't put as servant.

4. There is marriage in your friend circle. The food serving staffs not come. Now there is no one to serve food. That would you do??
a. You would serve food
b. Inform the relatives & ask them to make arrangement.
c. You would escape from duty saying your clothes would get dirty.
d. Arrange for serving staff in emergency basis using your contacts.

5. I respect is given to a waiter in a restaurant who is serving food. What would you do?
a. I will ignore
b. I will see sympathy for waiter.
c. I will interfere in that matter &favor to waiter
d. I will want know matter then favor of any one.

EQUALITY

1. A boy from rich family sees that a poor family boy is not treated properly at his house. What will he do?
a. He will not tell anything to his family.
b. He will tell to everyone in family & expected treat equally.
c. He will feel bad but can't do any thing for him.
d. He will ignore.

2. In a school differentiation is done on the basis of religion /co54 bet^{n} students. What will you do as a teacher?
a. He will ignore everything
b. He will talk to higher authorities & request to take some action.

c. He will take to teacher & tell them that is wrong process.
d. He will not take any action against that teacher.

3. At our home discrimination are done bet^{n} boy & girl by family members. What will you do as a mother?
a. I will follow our system& can't do anything. ☐
b. I will teach my children that both have equal rights. ☐
c. I will fight my children that both have equal rights with members. ☐
d. I will discuss with members & tell regarding equal right of boy & girl. ☐

4. In a village you see that low caste people are not treated equally. What will you do?
a. I will take to higher authority that they should give equal right to every one. ☐
b. I will take to village people & tell about the rights. ☐
c. I will inform to NGO to do something. ☐
d. I will ignore such things. ☐

5. Discrimination is done in office with on basis of sex. What will you do?
a. I will try to adjust with situation. ☐
b. I will fight for my rights. ☐
c. I will leave job & find another place & better. ☐
d. I will talk y higher authorize & request to solve that problem. ☐

TEAM WORK

1. Your collage is celebrating an annual function for the org. of prog. Your teacher has announced for need of volunteers in that situation your name has been selected for that. What will you do?
a. I will like to take responsibility. ☐
b. I will not take such responsibility. ☐
c. I will think I do not have extra time for that. ☐
d. I will thru away from the responsibility. ☐

2. You have given a project work in group there are 5 members in your group in that situation what kind of work you will do?

a. I will try to best to support a team. ☐
b. I will give just guidelines. ☐
c. I will dominate to handle whole project alone. ☐
d. I will far away from the responsibilities. ☐

3. Your facilities is celebrating science day for that they are some org. anizer required for that your name have been announced by your teacher in that situation.

a. I will suggest other name. ☐
b. I will run away. ☐
c. I will refuse that. ☐
d. I will take those responsibilities. ☐

4. Your faculty is celebrating group's days so your group has decided to wear which color in that situation.

a. I will motivate my group to celebrate. ☐
b. I will organize an event in an innovative way. ☐
c. I will fully participate in celebrating. ☐
d. I will lenoy to celebrate. ☐

5. In your peer group one girl got an accident & she is serious. Doctor has suggested for operation, but she belongs to poor family. Her parent's do not have enough money in that situation.

a. I will definitely help her financially. ☐
b. I will collect money from the people. ☐
c. I will contact with NGO's for helping her. ☐
d. I will ignore. ☐

DISCIPLINE

1. You have an important meeting & got message so you horridly run away from without taking license & in a way traffic police ask to show you a license. What will you do?

a. Give a tip to him. ☐
b. I will change my way when will watch the police. ☐
c. Request him to leave you. ☐
d. Try to create an excuse or explain the situation to him. ☐

2. You are a teacher. One student in class tries to disturb a class continuously in that situation…

a. I will scold him. ☐
b. I will punish him. ☐
c. Make him sit a front desk. ☐
d. I will try to know reason if his misbehave. ☐

3. You have a last train to catch but due to traffic signals you are getting late in that situation…

a. Break the traffic rules. ☐
b. Wait for signals over. ☐
c. Give tip to traffic police. ☐
d. Found the other short cut to reach their. ☐

4. You have an appointment with doctor at 11.00 am & also have an interview at 12 noon but you find that there are many appointments taken before you now in that situation….

a. I will request nurse for checking me as early as possible. ☐
b. I will give money to nurse for early. ☐
c. I will wait for my turn. ☐
d. I will cancelled an appointment & go for interview. ☐

5. You are an income tax officer you goos for test. Which is arvears at that time the person who has not paid tax he offers you money in that situation…

a. I will cancelled his license. ☐
b. I will take money. ☐
c. I will make case on him for bribing me. ☐
d. I will take step a head against him. ☐

DETERMINATION

1. I want to achieve gold medal in English in M.A. now my exam start on 9th March & some day my sister marriage. What I do?

a. I focus in my goal. ☐
b. I focus in exam as well as enjoy marriage function. ☐
c. I enjoy marriage mmm then my goal. ☐
d. I leave my exam this year & give next year. ☐

2. In a life I decided to speak "Truth" in any situation. Now what happen one day my friend insist for seeing movie but I do not want se so in this situation…

a. I go with them without take interest. ☐
b. I speak lie & say I am ill & not come. ☐
c. I request them to change their plan. ☐
d. I say strictly that I will not come. ☐

3. I want become C.A. & for it I have 3 times exam but I failed al time in this situation…

a. I try to achieve my goal in best way. ☐
b. I do cheating in exam & passed. ☐
c. I give money to supervisor for helping. ☐
d. I left my goal. ☐

4. I live Palej and come Baroda everyday for study in M.S.U. but, today during exam my train is late my exam start 12.30 pm & right now 11.45 am at Palej in this situation what I do…

a. I take private vehicle & reach exam center.

b. I go on highway & wait for bus.

c. I decided to left exam.

d. I decided to go late & write paper in whatever time I have.

5. In singing competition our school always got 1st No. in other district school. I also take part in singing competition but my throat has some problem & voice not clearly. In this situation…

a. I feel fearness.

b. I left singing.

c. I take doctor advice & o maxi. Exercise.

d. I do not about problem & continue singing.

SIMPLICITY

1. I have a friend those is very simple. One day she went with me in my other friend's birthday. In the birthday party other friends also present & they wear modern dress. When they saw my friend everybody laugh on my simplicity in this situation what would he do?

a. He will leave to go in birthday party.

b. He will left the simplicity & change our self & follow western culture.

c. He will not take seriously other's thinking or compliment.

d. He will enjoy party without any comments of others.

2. Two daughter-in-law live in a house elder daughter-in-law belong to cultured family but poor & her husband income is also not much & she is believe in 'simple life& high thinking'. But younger daughter-in-law is just opposite in all & she also do lass work of house. In this

situation she want to live life like as younger daughter-in-law. What she would do?

a. She should fight with her husband.

b. As an elder daughter-in-law she would do less work & take responsibility.

c. She would leave her husband's house.

d. She would live life with her husband with happiness.

3. Two girls are in same class & both are scholar. But one belongs to simple family & very simple & other belong to rich family & very proud. Teacher is also like proud girl. So, what would do other girl…?

a. She would left simplicity &make proud.

b. She left school.

c. She would behave those teacher want.

d. She should confirmed maintain the simplicity & by to happiness with teacher.

4. You are coming school by bicycle& your friends come by two-whalers? They teach you for being simple in situation what will you do?

a. You are f

b. Fixed on our decision as it is good for health. You avoid situation.

c. You pressure on your parent for two-whaler.

d. You start some work & save money for buying two-whaler.

5. You are living in U.K. last three months & their you are following Indian culture because of your thinking & dress-up their people feel odd & laugh in this situation what would you do?

a. You left U.K. & come back India.

b. You accept western culture & left Indian culture.

c. You will feel shame because of their people attitude.

d. You will proud of Indian Culture & live life with simplicity without any hazitation.

HONESTY

1. Your are giving board exam. In that exam you are not able to solve one question. That question solve by other student with the help of chit & that student after completed question is giving you that chit what would you do?

a. You take immediately that chit. ☐
b. You complaint to teacher on that student. ☐
c. You will not writ Answer of that question. ☐
d. You will not write answer from that chit & though outside from window. ☐

2. Your friend stolen a compass from other student & that incident you have seen after that incident the student is won ping. Now what would you do..?

a. You will inform to all that such things. ☐
b. You try to stop such incident. ☐
c. You will inform to teacher/ student such incident. ☐
d. You will ignore that incident. ☐

3. You are a doctor. You are doing job in a Hospital. One day you want of in marriage & some time when you are going from hospital an accident case come & it is serious & your presence is compulsory. What would you do?

a. You will check to patient. ☐
b. You will go in marriage. ☐
c. You will avoid to patient family member to go other hospital. ☐
d. You will ignore to attend the marriage & handle that case. ☐

4. You are captain of your school cricket team. Many students want to play in that some are your friend. What would you do?

a. You will first select your friends. ☐
b. You will select best player for team. ☐
c. You will select some your friend & other student. ☐
d. You will not select your friend. ☐

5. You are going in fun-fair. In that fun-fair you got a purse. In that purse 1000 Rs. Inside. What would you do?

a. You take 100 Rs. & through that purse. ☐
b. You will contact to person on the basis of information that gets from purse. ☐
c. You will give that purse to police. ☐
d. You will ignore that purse. ☐

COMMON GOAL

1. During the time of war the price of all items high for the price during that time what would you do?
a. You will increase the price. ☐
b. Internal & external business of country should be banned. ☐
c. Banned on import items. ☐
d. Do not. ☐

2. Every sport person wants gold medal in stat / national/international level. For that what would you do?
a. You will do cheating and won game / gold medal. ☐
b. You will hurt to other people and won the game. ☐
c. You will win the game and with honesty & confidence. ☐
d. You will give the bribe to authority for won the game. ☐

3. If you want make a food teacher after B.ed then what would you do?
a. You will concentrate on study & learn teachings. ☐
b. You will just enjoy in B.ed & think I will learn in future. ☐
c. You will copy from other teacher & students. ☐
d. You will think first clear B.ed then will learn some thinking for making a goal teacher. ☐

4. MBBS student's goal is make a good doctor. But they all success in that….

a. They think they do hard work & do social work.
b. Everybody will complete ok when all will come in their hospital.
c. They will not think regarding that.
d. They think do service free of coast.

5. MBBS student's goal is make a good doctor. But they all success in that….

e. They think they do hard work & do social work.
f. Everybody will complete ok when all will come in their hospital.
g. They will not think regarding that.
h. They think do service free of coast.

LOYALTY OF DUTY

1. Your teacher has given you a group assignment & you do not know how to perform in your task. How will you perform duty?

a. Give other person to do your work. ☐
b. Your will try to understand from your classmates & do. ☐
c. You will not take seriously & do as its. ☐
d. You will not take seriously & do as its. ☐
e. You perform it roughly as you think. ☐

2. You are married person & bound many responsibilities. You are enough qualified to do job but financial condition is not good. So, by coming your situation on you required job. At this situation on how will you perform both duties?

a. You will not concern for your job. ☐
b. You will do job & make maid for every work at home. ☐
c. You will do less work type job & less time & perform both duties. ☐
d. You will perform both by doing at your maximum limit. ☐

3. You have a function in your house which in such important at same day you have important meeting at your office. How will you perform at both sides?

a. You will attend your function only & leave meeting. ☐
b. You will manage both but fist function. ☐
c. You will go only for meeting. ☐
d. You will attend both by adjusting time. ☐

4. In the morning you have time to go to office but you find your son sick, how will you perform your duty both.

a. You will not go office but call office but go for doctor. ☐
b. You will consult your doctor & give medicine your son and then you go office. ☐
c. Your will be at home to take care of your child. ☐
d. You will keep maid at home for taking care & go office. ☐

5. You are in good position in company & you have been told to perform the task not related to your designation by your superior. How will you manage it?

a. You will leave to do that task. ☐
b. You will avoid from doing such task. ☐
c. You will perform very well as it is order from your superior. ☐
d. Your will delegate the task it any other personal as it not your duty. You feel such emotion. ☐

APPENDIX XIII

BLUE PRINTS FOR ACHIEVEMENT TEST IN SCIENCE AND TECHNOLOGY

UNIT NO.	KNOWLEDGE LEVEL			UNDERSTANDING LEVEL			APPLICATION AND ABOVE LEVEL			TOTAL
	MCQ	VSAQ	SAQ	MCQ	VSAQ	SAQ	MCQ	VSAQ	SAQ	
UNIT-1		1 (01)	1 (02)	1 (01)			1 (01)		1 (03)	**05 (08)**
UNIT-2	3 (03)	1 (01)	1 (02)	3 (03)			1 (01)		1 (03)	**10 (13)**
UNIT-3	6 (06)	1 (01)				1 (02)			1 (03)	**09 (12)**
UNIT-4	4 (04)	1 (01)				1 (02)			1 (03)	**07 (10)**
UNIT-5	4 (04)	1 (01)				1 (03)			1 (02)	**07 (10)**
UNIT-6	2 (02)									**02 (02)**
UNIT-7	2 (02)									**02 (02)**
UNIT-8	2 (02)									**02 (02)**
UNIT-9	1 (01)									**01 (01)**
TOTAL	**24 (24)**	**05 (05)**	**02 (04)**	**04 (04)**		**03 (07)**	**02 (02)**		**05 (14)**	**45 (60)**

Numbers in the boxes without brackets indicate the number of questions
Numbers in the boxes with brackets indicate the marks

Unit 1-Motion, Unit 2-Force and laws of motion, Unit 3-Gravitation,
Unit 4-Properties of matter, Unit 5-Structure of atom,
Unit 6-The Fundamental units of life-the cell, Unit 7-Plant tissues,
Unit 8-Animal tissues, and Unit 9-Why do we fall ill ?

Multiple Choice Questions (MCQ)=30 Marks
Very Short Answer Questions=05 Marks
Short Answer Questions= 25 Marks
Total Marks= 60

APPENDIX XIV

Achievement Test of Science and Technology

Student Name: _____ Date:
Standard: IX Marks: 60

Instruction-(1)-There are two part in this question paper.
(2)-All question are compulsory.
(3)- Marks given in brackets.

Q.1 to 30 are multiple choice question with one marks each.

(1) Constant speed of a train is 54 km/h. What is its speed in unit m/s?
(a) 15 (b) 90 (c) 1.5 (d) 9

(2) Largest cell in Human body is….
(a) Liver cell (b) Nerve cell (c) Muscle cell (d) Kidney cell

(3) Who has coined word 'Cell' ?
(a) Robert Hooke (b) Robert Brown (c) Watson & Crick (d) Flamming

(4) The living component of Xylem is
(a) Tracheid (b) XylemFiber (c) XylemParenchyma (d) Trachea

(5) Which type of motion is described by a graph in fig?
(a) Uniform motion (b) Uni. accelerated motion (c) Body is stationary

(6) For which of the following physical quantity it is necessary to indicate direction along with its magnitude?
(a) Speed (b) Path-length (c) Displacement (d) Temp.

(7) What is the unit of momentum?
(a) kgm/s (b) kgms (c) kgm/s2 (d) m/s

(8) 1 newton = _____ dyne.
(a) 10^3 (b) 10^4 (c) 10^5 (d) 10^6

(9) Which of the following vehicle has the least inertia?
(a) Bicycle (b) Scooter (c) Car (d) Trucks

(10) Unit of which of the following physical quantity is same as that of impulse of Force?

(a) Force (b) Acceleration (c) Momentum (d) Velocity

(11) Which substance can not be used to reduce friction?

(a) Oil (b) Grease (c) Gum (d) Graphite

(12) Which of the following physical quantity is scalar?

(a) Mass (b) Force (c) Impulse of Force (d) Momentum

(13) The Earth _____about its axis?

(a) Revolve (b) Rotates (c) Remains steady

(14) The Earth and other planets_____around the sun.

(a) Revolve (b) Rotates (c) Remains steady

(15) The Density of water is _____

(a) 1 kg/m3 (b) 1000 kg/m3 (c) 1000 g/cm3 (d) 19300 kg/m3

(16) The direction of weight of an object is in ____direction.

(a) East (b) North (c) Upward (d) Gravitational force

(17) 1 pascal= 1 _____

(a) m/s2 (b) Nm2/kg2 (c) N/m (d) N/m2

(18) The initial velocity of freely falling body is _____

(a) More (b) Less (c) Zero (d) 9.8 m/s

(19) In which state of substance, it has shape?

(a) Liquid & Gas (b) Liquid (c) Gas (d) Solid

(20) What is Air?

(a) Stone (b) Element (c) Compound (d) Mixture

(21) Which of the following is Zel?

(a) Ghee (b) Sponge (c) Milk (d) Butter

(22) What is the Atomic mass of helium in amu unit?

(a) 8 (b) 9 (c) 2 (d) 4

(23) Bone is example of …..

(a) EpitheliumTissue (b) MuscularTissue (c)ConnectiveTissue (d) NervousTissue

(24) Muscles contain special protein called ….

(a) Globulin (b) Tubulin (c) ContractileProtien (d)Carrier Protien

(25) What is the correct from the following about cathode rays?

(a) +Ve charge particle (b) -Ve charge particle

(c) Radiations (d) Beam of electron

(26) Who is discovered of X-rays from the following?

(a) Willard (b) Rontgen (c) Rutherford (d) Chadwick

(27) Good Health means ….

(a) Physical well being (b) Mental well being(c) Social well being (d) All

(28) Who is discovered neutrons?

(a) Thomson (b) Rutherford (c) Neilsbohr (d) Chadwick

(29) In which atom the electronic configuration 2, 8, 2 available?

(a) Fe (b) Mg (c) Mn (d) Mo

(30) Which of the following does not undergo deviation?

(a) Bita rays (b) Alpha rays (c) Gama rays (d) x-rays

Q-2: Answer in brief. **(5)**

1. Give the S.I. unit of acceleration.

_____

_____

2. What is the Force offered by a surface in contact, which oppose motion is called?

_____

_____

3. On what factors does the value of Gravitational force depend?

_____

_____

4. What is called Molecular mass?

_____

_____

5. Write use of X-rays.

_____

_____

Q.36 To 40 are each two marks short questions.

36-Give arrangement of Electrons of following elements in their Orbits.

11**Na**,13**Al**,19**K**,16**S**

37-Write 4 differences bet. Mixture and Compound.

38-Write the importance of Universal law of Gravitation.

39-Define the Velocity and Acceleration.

40-Explain the Newton 1^{st} Law of motion.

Q.41 To 45 are numerical question having three marks each.

41-When brakes are applied to a car running on a straight road retardation of 4 m/s2 is produced. It stops after 3s.Calculate the distance travelled after brakes are applied.

42-An object of mass 5 kg. is moving with velocity4 m/s.Aconstant force of 20 N act on object. Calculate its velocity after 3s.

43-Calculate the weight of body of 30 kg. mass on the surface of the Earth and Moon.(ge=6gm=9.8 m/s2)

44-Find the number of molecules of sulfuric acid present in 4.9 grams sulfuric acid and Calculate its moles.

45-Write a short note on discovery of Neutron.

APPENDIX XV

REACTION SCALE

Dear Students,

I wish to approach you with an assignment, which is part of my doctoral research at the Department of Education (CASE), Faculty of Education & Psychology, The M. S. University of Baroda, Vadodara. Kindly respond to the set of statements according to the instructions provided above them. The statements are with regard to your reaction towards different aspects of the value integrated approach in teaching Science you have just gone through. The statements are given with five point scale viz. Strongly Agree (SA), Agree (A), Un-Decided (UD), 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 approach. Your belief may be different than your friends who are sitting next to you so do not copy. 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. I would like to assure you that your responses will be treated as confidential and be used exclusively for the purpose of this research study only.

Thanking you for your cooperation,

Shive Kumar Dubey

Investigator

Sr. No	Statements	SA	A	UD	D	SD
1	Teaching science was interesting in this approach.					
2	I understood the concepts taught in science through this approach.					
3	I like the way the examples and illustrations were given in the subject of science while teaching through this approach.					

4	The explanation given for each topic in science was clear to me while teaching through this approach.					
Sr. No	**Statements**	**SA**	**A**	**UD**	**D**	**SD**
5	The activities conducted for explaining the topics in science was interesting while teaching through this approach.					
6	I likes the way the active participation of students was found while learning through this approach.					
7	The active participation of students through this approach helped us for better understanding of science subject.					
8	Teaching aids used by the teacher while teaching through this approach was helped us to understand the concepts easily.					
9	Teaching aids used by the teacher while teaching through this approach was interesting for us.					
10	I likes the way teacher was finding and quoting different values while teaching the concepts of science.					
11	We also learned about some values while teacher was teaching science in time following this approach.					
12	I likes the way teacher was finding and quoting different values while teaching the concepts of science.					
13	I likes the way teacher was giving examples related to values while teacher science through this approach.					
14	I came to know about different values while learning science through this approach.					
15	I understand different values while learning science through this approach.					
16	I likes the way teacher telling small stories related to values while teaching science through this approach.					
17	I liked the values taken by teacher while teaching science through this approach.					
18	I realized the importance of values while learning through this approach.					
19	I am also practicing some values those were taught through this approach while teaching science.					

20	I was participating in the discussion related to values while the teacher was teaching science through this approach.					
21	I found it very easy for students to learn about values through this integrated approach.					
Sr. No	**Statements**	**SA**	**A**	**UD**	**D**	**SD**
22	Teaching about values through integrated approach while teaching science will not affect in the students' learning about science.					
23	I liked this approach of imparting values while teaching curricular subjects like science.					
24	This type of approach of imparting values should be used while teaching other subjects.					
25	I liked the teaching of science through value integrated approach.					