

# MAHAJUBILEE TRAINING COLLEGE

MULLOOKARA - THRISSUR (DT.) Pin: 680 583



## ACHIEVEMENT TEST

Year ..2020-2022

Name :...ANNA VITO.....

Reg.No. :...MTAUTPN002.....

Optional Subject :...PHYSICAL SCIENCE.....

**MAHAJUBILEE TRAINING COLLEGE**  
**MULLOOKARA - THRISSUR (DT). 680 583**



**ACHIEVEMENT TEST**

Year : ..~~2020-2022~~..

Name : ..ANNA VIJO.....

Reg.No. : ..MTUATPN002.....

Optional Subject : ..PHYSICAL SCIENCE.....

Certified that this is the bonafide record of.....ANNA VIJO.....

Reg. No. ....MTAUTPN002..... For the year...2020-2022.....

*Reshma*  
**FACULTY MEMBER**

Date...*18/01/2022*.....

Asst. PROFESSOR IN PHYSICAL SCIENCE  
MAHAJUBILEE TRAINING COLLEGE  
MULLOOKARA - 680 583



*S. Chacko*  
**PRINCIPAL**

Date...*18/01/2022*.....

Rev. Dr. Chacko Chiramel  
PRINCIPAL  
MAHAJUBILEE TRAINING COLLEGE  
MULLOOKARA - THRISSUR

# INDEX

Sl. No.	Contents	Page No.
1.	INTRODUCTION	3
2.	NEED AND SIGNIFICANCE OF ACHIEVEMENT TEST	4
3.	DEFINITION	5
4.	PREPARATION OF ACHIEVEMENT TEST	5
5.	ACHIEVEMENT TEST-I	11
6.	ACHIEVEMENT TEST-II	43
7.	CONCLUSION	73

# ACHIEVEMENT TEST

# 1. INTRODUCTION

An achievement test is a test aimed to get the data about the student's knowledge or capability in one subject. An achievement test is also a test that can identify the student's strengths and weaknesses in one subject. It is used to measure a pupil's achievement and progression in a specific subject or topic over a set period of time. It helps in evaluating the effectiveness of teaching instructions. It also provides feedback to the students as well as to the teachers. The achievement test has the focus on the realization of objectives of teaching and learning.

An achievement test is an important tool in school evaluation and has great significance in measuring instructional progress and progress of the students in the subject area.

Achievement test scores are often used in an educational system to determine what level of instruction for which a student is prepared. High achievement scores usually indicates a mastery of grade-level material and the readiness for advanced instruction. Low achievement scores can indicate the need for remediation or repeating a course grade.

Achievement test may be of different types on the basis of purpose for which it is administered. The most common type of achievement test is a standardized test developed to measure skills and knowledge learned in a given grade level, usually through planned instruction, such as training or classroom instruction.

## 2. NEED AND SIGNIFICANCE OF ACHIEVEMENT TEST

- Achievement test are very useful in evaluating and improving the curriculum meant for the students of different grades.
- It gives educational guidance by assessing the capabilities of the students.
- To assess how the students is performing in theory as well as practical.
- Achievement tests enable the parents and teachers to know strengths and weaknesses in the context of their academic achievements as a result of which they can be able to provide special help and guidance to their children.
- To motivate the students to pick up new assignments and works.

### 3. DEFINITION

An achievement test is one designed to measure a student's grasp of knowledge or his proficiency in certain skills.

It is a systematic procedure for determining the amount a student has learned through instructions.

Achievement test is assigned to measure knowledge, understanding or skills in a specified subject or a group of subjects.

### 4. PREPARATION OF ACHIEVEMENT TEST

The basis for construction of the achievement test in the traditional classroom was the theory of Bloom's Taxonomy. But now a days educators give importance for constructivist classroom and to the assessment of attainment of mental process. So there is weightage for the mental process objective from the theory of Revised Bloom's Taxonomy.

There are several steps involved in the construction of achievement test. They are:

1. Planning of the test
2. Preparation of a design for the test
3. Preparation of the blueprint
4. Writing of items
5. Preparation of the scoring key and marking scheme
6. Preparation of the question use analysis

## PLANNING OF THE TEST

Planning of the test is the first important step in the test construction. The main goal of the evaluation process is to collect valid, reliable and useful data about the student. The first step involves three major considerations.

- Formulation of the statement of objective
- Formulation of the purpose of the test
- Construction of the test
- Emphasis on course content.

## PREPARATION OF A DESIGN FOR THE TEST

After determining the broad scope of the test a design has to be developed in tune with it. The learning outcomes, content, forms of questions, the difficulty levels of items, scheme of options and scheme of sections are the most important factors to be considered in such a design.



### i). Weightage to content

This indicates the various aspects of the content to be tested and the weightage to be given to each of these aspects. Suppose a lesson or unit including various aspects of study or subunits had been taught. To test these aspects questions covering all the aspects should be included in the design with due weightage assigned to each aspect in relation to its importance with other aspects.

### ii). Weightage to thinking skills

60% weightage may be given to thinking skills used for factual and conceptual attainment. 40% weightage may be given to thinking skills for conceptual generation.

### iii). Weightage to form of questions

This indicates forms of questions (objective type, short answer type, essay type) to be included in the test and the weightage to each form of questions. 15 to 20% weightage of total score must be given to objective type questions and upto 20% weightage of the total score given to essay type questions. The height score given to a question is limited to 10% of the total score.

### iv). Weightage to difficulty level.

The test should cater to the bright, average and

the dull. Discriminating power, that is the ability to discriminate high achievers, average achievers and low achievers is a quality to be maintained by a good test. Test should contain easy, average and difficult questions.

#### v). Scheme of option

It means the option or choices given to the students to select certain questions. These may be external option and internal option.

#### vi). Scheme of sections

It means the arrangement of questions into separate divisions.

### PREPARATION OF A BLUE PRINT

A blueprint gives the details of the design in concrete terms. Blueprint is prepared as a three dimensional chart indicating the distribution of questions objective wise, content wise, and form wise. Blueprint gives the framework for the test and indicates the broad limit within which the test constructor has to work.

### WRITING OF ITEMS

With the precise directive suggested by the blueprint the paper setter writes items according to the requirements. The difficulty level has to be considered while writing items. It should also be checked whether

9

all the questions included can be answered within the time allotted.

### PREPARATION OF THE SCORING KEY AND THE MARKING SCHEME

In order to maintain objectivity, scoring should be made in accordance with a predesigned scheme of evaluation. In the case of objective type items, scoring key is prepared. In the case of short answer and essay type questions marking scheme is prepared. The various value points for responses are determined and marks are allowed to each valuepoint for responses and are determined and indicated.

### PREPARATION OF QUESTION-WISE ANALYSIS

In order to avoid all loopholes, the setter prepares a table containing all relevant details of all the items of the test. This is done by making an analysis of each item in terms of content, thinking skills, specific thinking skills, forms of questions, marks and estimated time. This analysis is helpful to check whether all the aspects envisaged in the design and blueprint are satisfied by the test in its final form.

# MAHAJUBILEE TRAINING COLLEGE

MULLOOKARA - THRISSUR (DT.) Pin: 680 583



## ACTION RESEARCH

Year ...2020-2022....

Semester ...THIRD.....

Name :.....ANNA.VIJO.....

Reg.No. :.....M.T.A.U.T.P.N.002.....

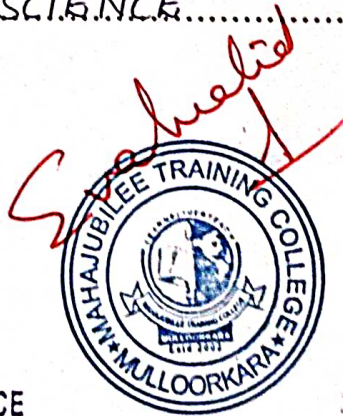
Optional Subject :.....PHYSICAL SCIENCE.....

*Reshma*

FACULTY MEMBER

Date...22/01/2022....

Asst. PROFESSOR IN PHYSICAL SCIENCE  
MAHAJUBILEE TRAINING COLLEGE  
MULLOOKARA - 680 583



*[Handwritten Signature]*  
PRINCIPAL

Date....22/01/2022

Rev. Dr. Chacko Chiramel  
PRINCIPAL  
MAHAJUBILEE TRAINING COLLEGE  
MULLOOKARA - THRISSUR



# INSTRUCTION

Instruction is a process of helping learners acquire knowledge, skills, and attitudes. It is a social process that involves the interaction between the teacher and the learner. The teacher's role is to facilitate the learning process, while the learner's role is to actively engage in the learning process. Instruction is a complex process that involves many factors, including the learner's prior knowledge, the teacher's expertise, and the learning environment.

# ACTION RESEARCH

Action research is a process of inquiry that is designed to solve a problem or improve a practice. It is a cyclical process that involves planning, acting, observing, and reflecting. The goal of action research is to bring about a change in practice that is based on evidence. Action research is often used in education to improve teaching and learning. It is a collaborative process that involves the teacher and the learner working together to solve a problem.

In schools, action research refers to a cycle of inquiry that is designed to solve a problem or improve a practice. It is a cyclical process that involves planning, acting, observing, and reflecting. The goal of action research is to bring about a change in practice that is based on evidence. Action research is often used in education to improve teaching and learning. It is a collaborative process that involves the teacher and the learner working together to solve a problem.

# 1. INTRODUCTION

Action Research is defined as any systematic inquiry conducted by teachers, administrators, counsellors or others with a vested interest in the teaching and learning process or environment for the purpose of gathering information about how their particular school operate, how they teach, and how their students learn.

Action research allows teachers to study their own classrooms - for example, their own instructional methods, their own students and their own assessments - in order to better understand them and to be able to improve their quality or characteristics of the population with whom a practise is employed or with whom some action must be taken. This in turn results in the increased utility and effectiveness for the practitioner. It offers a process by which current practice can be changed toward better practice. The overall goal of action research is to improve practice immediately with one or a few classrooms or schools.

In schools, action research refers to a wide variety of evaluations, investigative and analytical research methods designed to diagnose problems or weaknesses - whether organizational, academic or instructional - and help educators develop practical educa-

to address them quickly and efficiently. The general goal of action research is to create a simple practical, repeatable process of iterative learning, evaluation and improvement that leads to increasingly better results for schools, teachers or programs.

## 2. OBJECTIVES

- To make the teacher and school administrators research minded.
- To develop in the practitioners the required confidence and ability to carryout research for solving their own problems.
- To make the school or educational personnel more cooperative and democratic in their world of work.
- To make the teaching-learning environment more conducive for effective outcomes.
- To raise the level of performance and the level of aspiration of the students.
- To improve the working conditions of various infra structural components of a school.
- To develop scientific attitude among teachers where by they are motivated to study problems scientifically before taking decisions.



### 3. NEED AND IMPORTANCE

- Action research develops scientific outlook in the teachers, inspectors, heads and management of the educational institution.
- Some of the problems of educational institutions are related to curriculum, textbooks, methods of teaching, system of examination, discipline, co-curricular activities etc. Action research helps the teachers and examiners to evaluate their own methods and to remove their defects.
- Action research is useful from the point of view of application of the results obtained. Results are applied and implemented by the person engaged in the work of education.
- It helps the teachers to turn from the traditional methods of teaching to those methods that are modern and effective hence ensuring the satisfaction of the needs of the students.

### 4. IDENTIFICATION OF PROBLEM

During the period of my internship, I came across certain problem in learning among the students of Govt. Girls High school, Wadakkancherry. Balancing

**MAHAJUBILEE  
TRAINING COLLEGE**  
MULLOOKARA - THRISSUR (DT) 680 583.



Topic : CASE STUDY REPORT

Name : ANNA.VIJO

Optional Subject : PHYSICAL SCIENCE

Semester : FIRST SEMESTER

Reg. No. : MTAUTPNOO2

Certified that this is the bonafide record of..... ANNA.VIJO.....

Reg.No..... MTAUTPNOO2..... for the year 20.20..... - 20.22.....

  
Faculty Member

Date..25/3/21.....

Asst. PROFESSOR IN PSYCHOLOGY  
MAHAJUBILEE TRAINING COLLEGE  
MULLOOKARA - 680 583



  
Principal

Date..30/3/21.....

Rev. Dr. Chacko Chiramel  
PRINCIPAL  
MAHAJUBILEE TRAINING COLLEGE  
MULLOOKARA - THRISSUR

## CONTENTS

SI.NO	HEADINGS	PAGE NUMBER
1	Introduction	1
2.	Identification Of The Problem	3
3.	Statement Of The Problem	3
4.	Hypothesis of the study	4
5.	Case History	5
6.	Analysis	7
7.	Suggestions	8
8.	Limitations of The study	10
9.	Conclusion	11
10	References.	

## 1. INTRODUCTION

A case study is a research methodology used to study and analyse a problem in-depth. The subject of study is called the 'case'. The case may be an individual, organization or an event.

Case studies always follow a research strategy. It involves an inquiry of the case studied. It is a systematic inquiry into an event or a set of related events which aims to describe and explain in detail the phenomenon of interest. It is an in-depth study of a particular situation rather than a statistical survey. Case studies, in their true essence, explore and investigate contemporary real-life phenomenon through detailed contextual analysis of a limited number of events or conditions, and their relationships. Yin defines the case study research method "as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used".

A case study may not answer a question completely, but it will give some indications and allow further elaboration and hypothesis creation on a subject. One limitation of case studies is that it is difficult to generalize from one case to another. There are different types of case studies.

### 1. Collective case studies

These involve studying a group of individuals. Researchers might study a group of people in a certain setting or look at an entire community of people.

### 2. Descriptive case studies

These involves starting with a descriptive theory. The subjects ~~with~~ are then observed and the information gathered is compared to the pre-existing theory.

### 3. Explanatory case studies

These are often used to do causal investigations. In other words, researchers are interested in looking at factors that may have actually caused certain things to occur.

Case study helps in in-depth and detailed understanding of a problem or situation. Through case studies, a variety of information can be collected from different sources using different methods like interviews, observation etc. Case studies are an important research method used in psychology. Case study also provide insight for further research.

The present case study is to understand the problems of adolescent children regarding their different aspects of development. A child of the adolescent age group is selected as the case.

The problems faced by the child is studied in detail and possible findings are listed.

## 2. IDENTIFICATION OF THE PROBLEM

For the purpose of studying the behaviour problems of school children, 'selection of a case' is the foremost step. Here, the 'case' of the study should be an adolescent child.

I used to notice a child named kavya, who is residing near my home. she is not at all engaged in playing activities with her neighbourhood friends. she used to be with her mother always. when I talk to her, sometimes she never mind us or she think for a while and answer to our questions. she is not at all social. But she is good at drawing pictures. she even draw pictures on the soil using stones. I noticed these behaviours of the child.

## 3. STATEMENT OF PROBLEM

The case of my study is an adolescent girl named kavya. The girl shows learning disability and is a slow learner. The child is so shy and doesnot mingle with others. This case study is done to understand or analyse the reason for her learning disability and shyness.

## CRITICISM LESSON PLAN - 9

### I. General Information

Name of the teacher: Anna Vijo

Standard: IX

Name of the school: MITS, Kullukara

Strength: 08

Subject: Chemistry

Duration: 45 min

Unit: Chemical bonding

Date: 12/8/2021

Topic: Ionic bonding.

### II. Curricular objectives

To understand the concept of ionic bonding through observation, discussion, communicating and tabulating.

### III. Content overview

Ionic bonding.

### IV. Content analysis

- a). Terms - Chemical bonding, Ionic bond, Octet, electron, stability, con-  
figuration, proton.

- b). Facts -
- Ionic compounds formed from metals and non-metals
  - In solid state ionic compounds do not conduct electricity.
  - Ionic compounds are soluble in water.
- c). Concepts -
- Ionic bond is the electrostatic force of attraction between oppositely charged ions
  - Atoms that loses the electrons becomes a positively charged ion and the atom that gain electron becomes negatively charged ions.

#### IV. Process analysis

- a). Process skill - Observation, discussion, communicating, tabulating
- b). Process - Loss of electrons to form cation and gain to form anion.

#### VI. Learning Outcomes

1. Learners can explain how atoms attains stability through ionic bonding
2. Learners can represent ionic bonding by Bohr model representation and dot diagram representation.



VII. Learning aids

- Chart presentation
- Still model of both model representation of ionic bonding

VIII. Pre-requisite

Students have previous knowledge about structure of atom, electronic configuration of atoms and octet rule.

IX. Expected products

- Science diary consisting of both model representation of ionic bonding
- Science diary consist of dot diagram representation of ionic bonding
- Examples of ionic bonding.

X. Class Transaction

Activity

Teacher enter the classroom with a good smile and students greeted the teacher. Then she asked about previous class. Then she gave an activity related to previous

Response

students greets back

Class topic:

Activity 1:

Teacher divided the students into group and gave an activity card. Then she asked the students to complete the third column of activity card by discussing in group.

Write down the electronic configuration of elements?

Element	Atomic Number	Electronic configuration
Fluorine	9	
Carbon	6	
Aluminium	13	
Neon	10	

Students finding the valency and completing activity card.

Points to be consolidated

write down the electronic configuration of elements?

Element	Atomic number	Electronic configuration
Fluorine	9	2, 2, 5
Carbon	6	2, 4
Aluminium	13	2, 8, 3
Neon	10	2, 8, 2

Through this activity teacher understood students are able to write the electronic configuration of elements.

Activity 2.

Teacher shows a chart contains the atomic number and electronic configuration of sodium, chlorine, magnesium and oxygen atom. Then she asks how

students completing the task

these atom will attain stability.

### Elements and electronic configuration

Element	Atomic number	Electronic configuration
1. Sodium (Na)	11	2, 8, 1
2. Chlorine (Cl)	17	2, 8, 7
3. Oxygen (O)	8	2, 6
4. Magnesium (Mg)	12	2, 8, 2

Points to be consolidated

Through this activity teacher explains the concept of chemical bonding.

### Activity 3-

After this teacher explains the electron transfer between sodium and chlorine by drawing both model

representation and dot diagrams representation on blackboard. Teacher also shows the still model of ionic bonding and a chart which defines ionic bonding.

Points to be consolidated

- Teacher explains the concept of ionic bonding.
- Ionic bond is a chemical bond formed by electron transfer.

### Activity 4

Teacher gave an activity card to students and asked them to fill the arrangement of electrons before and after the chemical reaction during formation of sodium chloride.

Students reading the chart

students completing the activity card.

Elec. configuration	Sodium		Chlorine	
	Before Reaction	After reaction	Before reaction	After reaction
No. of electrons				
Charge				

Points to be consolidated

Students understood how charge is distributed among elements. By this activity teacher clarified the concept ionic bond formation in sodium chloride.

XI. Follow up activity

Draw the dot diagram representation of formation of Magnesium oxide.

XII. Blackboard summary.

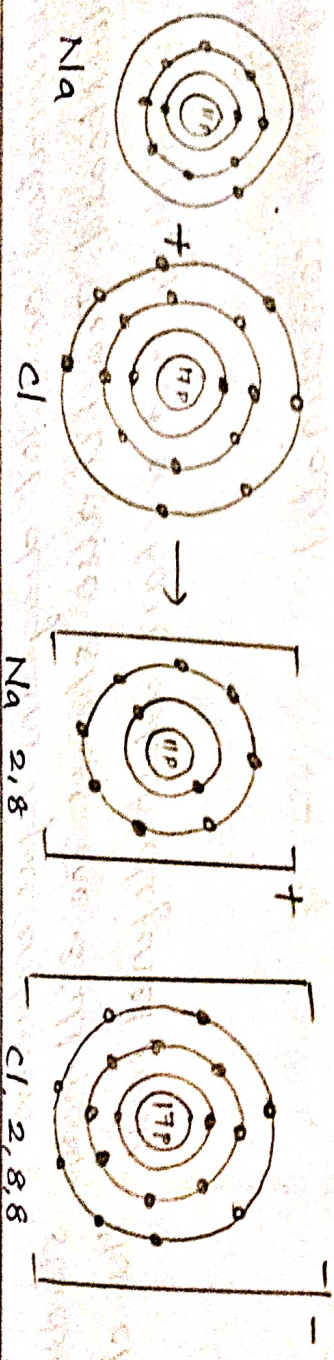
Date  
Std - IX

Chemistry

Sts: 8  
Str: 8

Ionic Bonding

Bohr model representing of sodium chloride



XIII. Refraction

Some learners have the difficulty to understand the charge distribution during ionic bond formation.

ASST. PROFESSOR IN PHYSICAL SCIENCE  
MAHARAJAJI TRAINING COLLEGE  
MULLAICHANASA - 605 013

~~Refraction~~  
~~Refraction~~