

LIST OF CONTENTS

	Page
LEGITIMATION SHEET	i
BIOGRAPHY	ii
ABSTRACT	iii
PREFACE	iv
LIST OF CONTENTS	vi
LIST OF TABLES	ix
LIST F FIGURES	x
LIST OF APPENDIXES	xi
CHAPTER I INTRODUCTION	
1.1 Background	1
1.2 Problem Identification	4
1.3 Problem Limitation	5
1.4 Problem Formulation	5
1.5 Research Objective	6
1.6 Research Benefit	6
1.7 Definition	7
CHAPTER II LITERATURE	
2.1 Theoretical	8
2.1.1 The result of learning	8
2.1.2 Problem Based Learning Model (PBL)	10
2.1.3 Learning Media	13
2.1.3.1 Animation's Media	14
2.1.4 Matter	14
2.1.4.1 Temperature	14
2.1.4.2 Expansion	18
2.1.4.3 Heat	22
2.1.4.4 Principle Black	24
2.1.4.5 Heat Transfer	24
2.1.4.6 The Phase Transition	27
2.2 Conceptual	27
2.3 Research Hypothesis	28
CHAPTER III RESEARCH METHODS	
3.1 Location and Time of Research	29
3.2 Population and Sample	29
3.2.1 Population	29
3.2.2 Sample	29
3.3 Research Variable	29
3.4 Types of Research	29

3.5 Research's Design	30
3.6 Procedure of Research	30
3.7 Instrument of Research	31
3.7.1 Instrument of observation	31
3.7.2 Result Test	33
3.8 Technique of Data Analysis	33
3.8.1 Observations of students's activity	33
3.8.2 Result test in learning	34
3.8.2.1 Normality Test	34
3.8.2.2 Homogeneity test	34
3.8.2.3 Hypothesis Test (t test)	35
3.8.2.3.1 Average Test of pretest	35
3.8.2.3.2 N-gain Analysis	36
CHAPTER IV RESULT AND DISCUSSION	
4.1 Result of Research	38
4.1.1 Result of pre-test and post-test data	38
4.1.2 The increasing of students learning outcomes	40
4.1.3 Data analysis	41
4.1.3.1. Normality Test	41
4.1.3.2. Homogeneity test	41
4.1.3.3. Hypothesis test	42
4.2 Description of observation	44
4.3 Discussion	44
CHAPTER V CONCLUSION AND SUGGESTION	
5.1 Conclusion	49
5.2 Suggestion	49
REFERENCE	50