

**ENHANCING THE UNDERSTANDING THE CONCEPT OF
"MAKING EFFORTS TO PROTECT ENVIRONMENT"
AMONG VIII STANDARD STUDENTS**

Action Research Report submitted to
STATE COUNCIL OF EDUCATION RESEARCH AND TRAINING
CHENNAI -6



Research Investigator

DR. M. RAJKUMAR

**SENIOR LECTURER
DIET, PUDUKKOTTAI**

**DISTRICT INSTITUTE OF EDUCATION AND TRAINING
PUDUKKOTTAI – 622004**

2023-24

CERTIFICATE

This is to certify that the Action Research titled **ENHANCING THE UNDERSTANDING THE CONCEPT OF "MAKING EFFORTS TO PROTECT ENVIRONMENT" AMONG VIII STANDARD STUDENTS** is a bonafide research work carried out by DR.M. RAJKUMAR during 2023-2024 and that the research has not been previously formed the basis for the award of any Degree, Diploma or any other similar title.

Principal

Place :

Date :

ACKNOWLEDGEMENT

I express my and most sincere thanks to DIRECTOR and JOINT DIRECTORS of State Council of Educational Research and Training, Chennai, for providing opportunity to undertake this piece of action research.

I convey my thanks to DIET Principals and Team Members of Pudukkottai, Kumulur of Trichy District, Padalur of Perambalur District, for giving approval and clearance to this action research.

I record heartfelt thanks to faculty members, Ministerial Staffers and Students of DIET, Pudukkottai for providing kind support to the action research.

Dr. M. RAJKUMAR

CONTENTS

1. Introduction
2. Identification of the problem
3. Need and Significance of the Study
4. Definition of key terms
5. Objectives of the study
6. Assumption
7. Action Hypotheses
8. Methodology
 - 8.1. Sample of the Study
 - 8.2. Tools
 - 8.3. Description of tools
 - 8.4. Experimental Design
9. Intervention
10. Experimentation in phases
11. Collection of Data
12. Data Analysis
13. Finding
14. Recommendation
15. Conclusion

Reference

Appendix

ENHANCING THE UNDERSTANDING THE CONCEPT OF "MAKING EFFORTS TO PROTECT ENVIRONMENT" AMONG VIII STANDARD STUDENTS

1. INTRODUCTION

Earth is yet the only known habitable planet to science. What makes Earth so unique is its position in the solar system and its environment. Earth's environment comprises four primary realms: the atmosphere, hydrosphere, lithosphere, and biosphere. An additional domain is a magnetosphere that consists of the Earth's magnetic fields. The four primary components coordinate with one another, and any change in one of them also results in shifts in the others. In simple words, Earth's environment is a combination of air, water, and land together with the living beings that exist.

Earth's environment is unique for every geographic location, but it is ever-changing. Pollution, overpopulation, excessive carbon dioxide emissions, and deforestation are some of the major ways in which humans have changed the environment. Human beings, just like other living creatures, are a part of nature, and each individual together forms the human race. These changes in the Earth's ecosystems affect the human race.

2. IDENTIFICATION OF THE PROBLEM

The world environment day is celebrated on 5th June, and it is celebrated since 1947. This day is the 'day of people' to do something for their environment and take care of the earth. We celebrate environment day to know the ways of saving our earth. The threat to the environment is increasing day by day, so it is our duty to make a clean and safe place to live. We should know our every step and action impact on the ecosystem. To live safely and without fear, it is our responsibility that we take care of our whole ecosystem.

Nowadays many of us especially school students are not in the understanding the concept of environmental protection. The main among in the lack of knowledge on environment. Hence the investigator found and opportunity to Undertake problems regarding enhancing the understanding the concept of making efforts to protect environment among 8th standard students.

3.SIGNIFICANCE AND NEED OF THE STUDY

Involving schoolchildren in environment friendly activities will help them grow into aware citizens of the planet who can also make a difference to their communities.

Nature is beautiful and needs to be preserved. Nature, when taken care of, provides us with everything we need but it can also express its fury if abused. Lately we have been witness to the fury - with the forest fires, drought, excessive rainfall and its attendant problems. Excessive pollution and exploitation of resources is also causing immense environmental damage.

Environment preservation' should be integrated with core subjects right from preschool. When we reinforce the importance of environment preservation in children from a young age, they will be conscious of the decisions they make. They will also correct their elders when they see them doing things that are harmful for the environment. What we need is a conscious set of youngsters to take on this mantle and drive it through.

4.DEFINITION OF KEY TERMS

Enhancing:

To improve something or to make something look better.

Understanding :

The knowledge that somebody has of a particular subject or situation.

Concept :

An idea; a basic principle.

Making effort:

attempt to do something.

"make an effort to do some kind of abdominal exercise"

Protect Environment:

"Environmental Protection" is not a term of art in competition (or antitrust) law. In the widest sense it concerns the protection of the natural environment by individuals, organisations and governments. The "environment" means the physical surroundings common to all of us including air, space, water, land, plants, and wildlife - as well as that of future generations. The UN and OECD have defined it as "any activity to maintain or restore the quality of environmental media through preventing the emission of pollutants or reducing the presence of polluting substances in environmental media".

5. OBJECTIVES

- ❖ To identify the initial level of understanding the concept of making efforts to protect environment among VIII standard students.
- ❖ To improve the understanding the concept of making efforts to protect environment through ICT.
- ❖ To find out the post level of understanding concept of making efforts to protect environment.

6. ASSUMPTION:

- The present level of understanding the concept of making efforts to protect environment of the students can be identified.
- The understanding of students about making efforts to protect environment among VIII standard students through ICT can be developed.

7. ACTION HYPOTHESES:

- There is significant improvement in the understanding of standard VIII students about making efforts to protect environment.
- There is marked improvement between the pre-test and post-test score of the students with reference to the understanding of standard VIII students about making efforts to protect environment..

8. METHODOLOGY:

Single group pretest and post test experimental design adopted by the investigator.

8.1 Sample :

For this present study 32 VIII standard students from PUMS, Illupakudipatti, Kundrandarkovil Block, Pudukkottai District were selected.

8.2 Tools :

For this present study 20 questions were prepared for the assessment of understanding the concept of making efforts to protect environment.

8.3 Description of the Tool:

The action research tool was designed by the researcher based on understanding, comprehension and application. All the questions are belongs to choose the correct answer, fill in the blanks. Questions were prepared for 20 marks on the basis of one mark for each question. Totally 20 marks constructed by investigator.

8.4. Experimental Design:

Single group pre-test, post-test experimental design adopted by the investigator.

9. INTERVENTION:

Based on the contents and the understanding concept of making efforts to protect environment, investigator adapted following intervention.

1. Videos

Video content is an effective way to promote green initiatives and causes, and it can be a powerful tool for environmental protection. It can help spread awareness about environmental issues and encourage students to take action. Video content can also be used to educate students about sustainable practices and how they can make a difference in the world. By using quality video content created with trusted tools, we can reach more and more with our message and motivate them to join the fight for a healthier planet. With video content, we can get the word out about green causes, inspire others to take action, and ultimately protect our environment for future generations. Some of the videos seen by students are

- A. Videos on deforestation, causes of deforestation and effect of deforestation.
- B. Videos on list of endangered species.
- C. Videos on importance of conservation of wildlife.
- D. Videos on functions of animal welfare organisation.

A. Deforestation:

Forests are the important renewable resources. They cover about 30 percent of the world's land surface. They produce oxygen and maintain the level of carbon dioxide in the atmosphere. Forests provide many important goods such as timber, paper and medicinal plants. They control water runoff, protect soil, and regulate climate changes. But the forests all around the world are being destroyed. Destruction of forests in order to make the land available for different uses is known as deforestation. Deforestation has

resulted in several ecological imbalances such as increase in temperature, deficiency in rainfall etc. It has also resulted in the extinction of several species of animals and plants.

Causes of Deforestation:

Deforestation may be caused by nature or it may be due to human activities. Fires and floods are the natural causes for deforestation. Human activities which are responsible for deforestation include agricultural expansion, cattle breeding, illegal logging, mining, oil extraction, dam construction and infrastructure development.

B. Endangered Species:

Our country is a home for variety of species with rich flora and fauna. Flora is the plant life occurring in a particular area. Fauna is the animal life occurring in a particular area. The Royal Bengal Tigers, the Asiatic Cheetah and several other birds are found in India. But due to various reasons like environmental pollution, deforestation, loss of habitat, human interference, poaching and hunting many animals in India are extinct and many are endangered. Species which no longer exist on earth are called extinct species. E.g. Dinosaurs, Dodo. An endangered species is an animal or a plant that is considered to be at the risk of extinction. It means that there are only few of them left on the earth and soon they might extinct.

C. Conservation:

According to WWF (World Wildlife Fund) there has been 60% decrease in the size of population of animals, birds, fish, reptiles and amphibians over the past 40 years. In order to leave something for the future generation, we need to conserve it now. Conservation is the protection, preservation, management of wildlife and natural resource such as forest and water. Conservation of biodiversity helps us to protect, maintain and recover endangered animals and plant species.

D. Animal Welfare Organizations:

Animal welfare organizations are the group of people concerned with the health, safety and psychological wellness of animals. They include animal rescue groups which help animals in distress, and others which help animals suffering from some epidemic. In this section we will study about some of them.

2. Visual images

As a visual species, humans often depend on sight to assess a situation. We do this not just as we make our way through our daily lives but also in how we learn.

With the brain's ability to identify and process images seen for as little as 13 milliseconds, photos are a rapid and efficient method of relaying information.

By framing a specific moment, an image can communicate a message quickly while evoking emotions that stick with the viewer.

Additionally, telling a story through a photograph can be a powerful tool to help viewers connect to complex issues quickly. A single image can introduce a viewer to the issue, get them to emotionally connect, and create a curiosity that motivates action – all in milliseconds. The power of photography lies in its ability to present a moment to an audience in a way that is both factual and emotionally compelling.

While it can be difficult for our brains to interpret facts and data on their own, the story is more effectively told and processed by incorporating images.

For example, when people hear information, they'll typically remember just 10% three days later. But by pairing a relevant image with that same information, retention jumps to 65%.

- A. Story of Dodo and Calvaria tree.
- B. Biography of Wangari Mathai.
- C. Information about Span Swallow bird.
- D. Fact about global warming.

A. Story of Dodo and Calvaria tree:

The dodo is an extinct flightless bird that were a part of the family which includes pigeons and doves was endemic to the island of Mauritius. Tambalacoque or calvaria or dodo tree, is a long-lived species of tree in the sapote family Sapotaceae. It is endemic to Mauritius.

It is widely accepted that the reasons that at least contributed to the demise of the dodo are deforestation, hunting, and the threat from invasive species. Hunting is one of the major factors that is attributed to the extinction of the dodos. Until humans came along and discovered them dodos had no natural predators. Invasive species.

Another reason that the dodo birds went extinct is due to the destruction of their habitat. Dodos were also naturally slow to reproduce as they only laid a single egg per clutch. This meant that once that egg was destroyed, there was no chance of chicks until the female laid a new clutch. As more explorers arrived on Mauritius, they traveled further across the

island. They began to cut down and destroy the forests that these birds lived in to make paths across the island.

In 1973, it was thought that the Tambalacoque or calvaria or dodo tree species was becoming extinct. Stanley Temple hypothesized that the dodo which became extinct in the 17th century, ate Tambalacoque fruits, and only by passing through the digestive tract of the dodo could the seeds germinate.

B. Biography of Wangari Mathai:

Wangari Muta Maathai (1940-2011) was trained in biological sciences and received a doctorate from the University of Nairobi.

Maathai was active in the National Council of Women of Kenya from 1976 and was its chairwoman, 1981-87. Through the Council, she introduced the idea of planting trees with the people and developed it into a broad-based, grassroots organisation designed to conserve the environment and improve women's quality of life. By the end of 1993, the women reported that they had planted over 20 million trees on their farms and school and church compounds.

In 2004, Maathai became the first African woman to win the Nobel Peace Prize. She passed away from cancer in 2011, but her legacy continues in many projects worldwide, such as in Plant for the Planet: The Billion Tree Campaign.

C. Information about Span Swallow bird:

The Barn Swallow is the most abundant and widely distributed swallow species in the world. It breeds throughout the Northern Hemisphere and winters in much of the Southern Hemisphere. Barn Swallows once nested in caves throughout North America, but now build their nests almost exclusively on human-made structures.

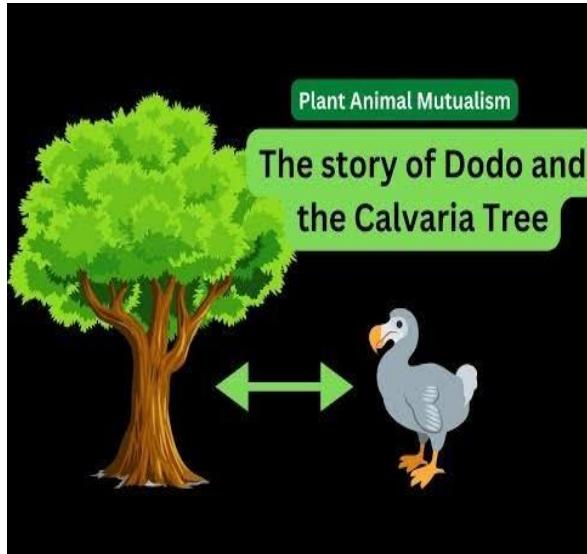
Barn Swallows breeding in the Americas winter in the Neotropics, traveling as far as much larger birds such as the Red Knot and Osprey. These small, roughly sparrow-sized birds fly up to 600 miles each day, moving in large flocks that feed on the fly.

D. Fact about global warming:

Global warming is the phenomenon of a gradual increase in the temperature near the earth's surface. This phenomenon has been observed over the past one or two centuries. This change has disturbed the climatic pattern of the earth. However, the concept of global warming is quite controversial but the scientists have provided relevant data in support of the fact that the temperature of the earth is rising constantly.

There are several causes of global warming, which have a negative effect on humans, plants and animals. These causes may be natural or might be the outcome of human

activities. In order to curb the issues, it is very important to understand the negative impacts of global warming.



3. Field demonstration

Field demonstration is a direct experience educational activity conducted in a systematic manner in the fields to show worth of a new practice/ technology. “Seeing is believing” is the basic philosophy of field demonstrations.

Students were taken to the forest classroom for an immediate outdoor experience, emphasizing the importance of plants and trees by investigator and practicing teacher. Later, both students and teachers engaged in tree planting activities.

The following activities are given by investigator and practiced teacher to the students of 8th standard.



Activity 1

Collect information about a nearby forest in your area and find out the rare species of plants and animals found there. Collect some pictures of plants and animals which you do not find around you and prepare an album.

Activity 2

Discuss about afforestation in the class and write a brief report on your discussion.

Activity 3

Observe the important days related to conservation of nature. Also organise a rally on protecting forest.

Activity 4

Observe the following days in your school

World Forest Day - March 21

World Water Day - March 22

Environmental Day - June 5

World Nature Conservation Day -July 2

Ozone Day - September 16

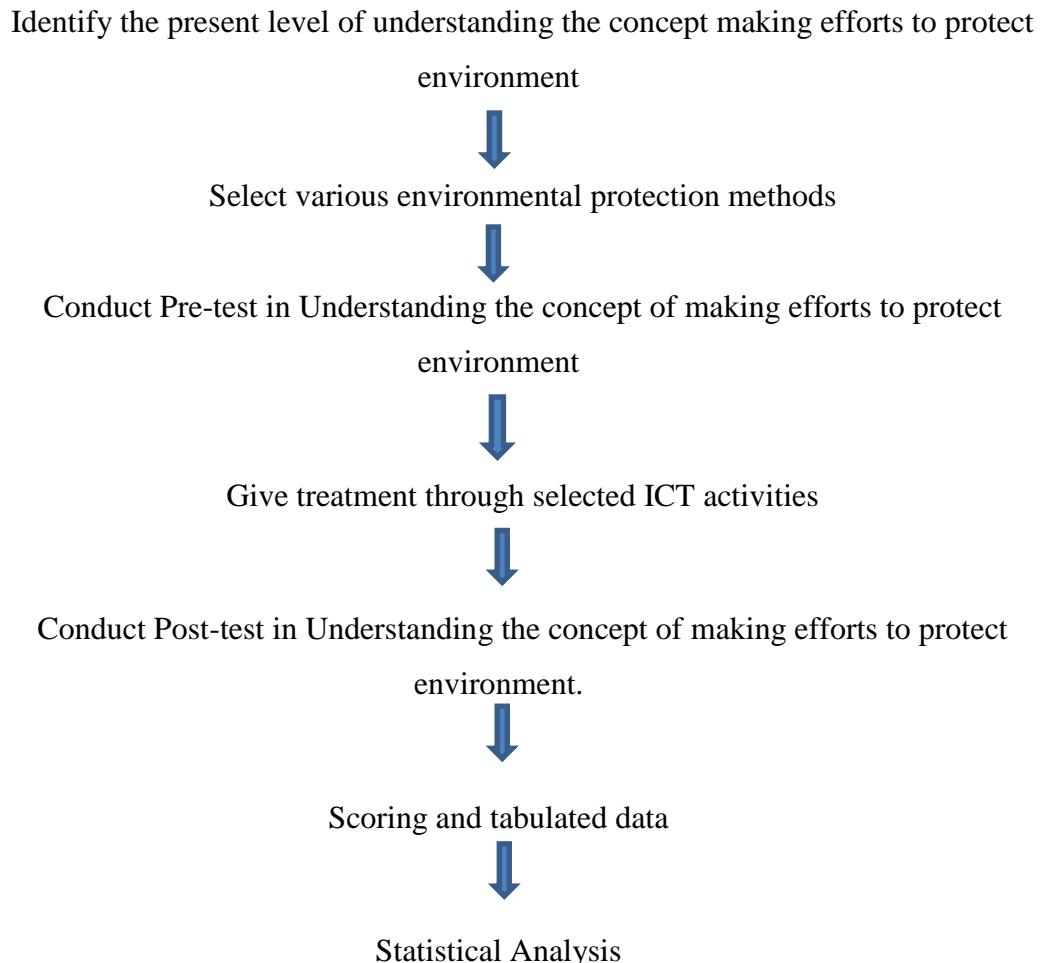
Activity 5

Collect as many pictures of wild plants and wild animals as possible. Prepare a poster showing the endangered species separately.

Activity 6

Find out the national parks and wildlife sanctuaries in Tamil Nadu. Visit those places and collect more information about them.

10. EXPERIMENTATION IN PHASES:



11. COLLECTION OF DATA

Since the action researcher collect data from the students. The investigator collect the data both pre and post assessment of tool administration. The investigator used 25 one word

12. DATA ANALYSIS

After data collection the investigation analysis the data for the interpretation purpose. He used example statistical technique and tabulated.

TEST	NUMBER	SUM	MEAN	S.D
Pre test	32	855	26.71	8.60
Post test	32	2165	67.65	14.41

Pre test score percentage = 26.71 %

Post test score percentage = 67.65 %

Percentage difference = 40.94 %

Post test score (67.65 %) is greater than pre test score (26.71 %)

EFFECT SIZE

TEST	MEAN	S.D	EFFECT SIZE
PRE TEST	26.71	8.60	
POST TEST	67.65	14.41	3.45

As per the cohen's rule of thumb guideline which is considered as a large effect size (<92 %) between the pre test and post test.

13. FINDINGS

- ❖ The pre-test mean score on understanding the concept of making efforts to protect environment among 8th standard students is 26.71% and standard deviation is 8.60.
- ❖ The post-test mean score on understanding the concept of making efforts to protect environment among 8th standard student is 67.65% and standard deviation is 14.41.
- ❖ The difference between the post test and pretest mean score is 40.94%.
- ❖ The effect size of the mean of pre test and post test of the student is 3.45 Which is consider large effect size by Cohen (1992).

14. RECOMMENDATIONS

- ❖ Understanding the concept of making a efforts to protect environment can be extended to students of other upper primary classes also.
- ❖ This can be extended to other schools and other blocks of students also.
- ❖ This action research may be conducted teachers also.

15. CONCLUSION

The present study concluded that enhancing the understanding the concept of making efforts to protect environment related activities among VIII standard students through various ICT program like videos presentation, visual images presentation, visual stories presentation, environmental conversation and field demonstration. These interventions are enhanced the concept of understand deforestation, afforestation and reforestation, list of endangered species, understand the importance of conservation of wildlife, know about the functions of animal welfare organizations.

REFERENCES:

- ❖ An introduction to Action Research SCERT, College Road,
- ❖ Chennai -600006.
- ❖ Science, Tamil Nadu Text book Corporation, SCERT, Chennai-60000
Upper Primary Level Learning Outcomes, NCERT, New Delhi.

Appendix

செயலாய்வு - வினாத்தாள்.

மாணவனின் பெயர் : _____

வகுப்பு : _____

சரியான விடையை தேர்ந்தெடுத்து எழுதுக. $20 \times 1 = 20$

1. காடுகளை அழிப்பதால் ஏற்படும் முக்கியமான பாதிப்பு.

அ. வெப்பநிலை அதிகரிப்பு மற்றும் மழைப்பொழிவு குறைவு.

ஆ. வெப்பநிலை குறைவு மற்றும் மழை அதிகரிப்பு.

இ. வெப்பநிலை அதிகரிப்பு மற்றும் மழைப்பொழிவு அதிகரிப்பு.

ஈ. வெப்பநிலை குறைவு மற்றும் மழைப்பொழிவு குறைவு.

2. காடுகளை அழிப்பதற்கு முக்கிய காரணம்.

அ. உணவு பற்றாக்குறை

ஆ. நகரங்களின் விரிவாக்கம்.

இ. பொருளாதார தேவை.

ஈ. இடப்பற்றாக்குறை.

3. மரத்தை அடிப்படையாகக் கொண்ட தொழில்.

அ. விவசாயத் தொழில்

ஆ. நெசவுத் தொழில்

இ. மண்பானை தொழில்

ஈ. தச்ச தொழில்

4. 2018 ஆம் ஆண்டு தமிழகத்தை தாக்கிய புயலின் பெயர்

அ. பானி

ஆ. பேத்த

இ. கஜா

ஈ. வர்தா

5. புவி வெப்பமயமாதலுக்கு காரணம்.

- அ. பசுமை இல்ல வாயுக்கள்
- ஆ. மந்த வாயுக்கள்
- இ. ஆக்சிஜன்
- ஈ. நெட்ரஜன்

6. தாவரங்கள் ஓளிச்சேர்க்கையின் போது உற்பத்தி செய்யும் வாயு

- அ. கார்பன் டை ஆக்சைடு
- ஆ. ஆக்சிஜன்
- இ. மீத்தேன்
- ஈ. நெட்ரஜன்

7. நமது பூமியை பாதுகாக்க ஒரு சிறந்த தீர்வு.

- அ. காடுகளை அழித்தல்
- ஆ. காடுகளை உருவாக்குதல்
- இ. பூச்சிகளை அழித்தல்
- ஈ. உரங்களை பயன்படுத்துதல்

8. சூரியனின் புற ஊதா கதிர்களிடமிருந்து பூமியை பாதுகாக்கும் படலம்

- அ. கார்பன்
- ஆ. மேகம்
- இ. பனிப்பொழிவு
- ஈ. ஓசோன்

9. 2004 ஆம் ஆண்டு கென்யா நாட்டைச் சேர்ந்த வாங்கari மாதாய் என்ற பெண்மணிக்கு அமைதிக்கான நோபல் பரிசு பெற்றதற்கான காரணம்

- அ. சமூக சேவை
- ஆ. அதிகமான மரங்களை வளர்த்தல்
- இ. முதியோர் இல்ல பராமரிப்பு
- ஈ. ஏழைகளுக்கு உதவுதல்

10. உலகின் நிலப்பரப்பில் காடுகளின் அளவு ஏறக்குறைய

அ. 10 சதவீதம்

ஆ. 30 சதவீதம்

இ. 50 சதவீதம்

ஈ. 5 சதவீதம்

11. காடுகள் அழிவதற்கு முக்கிய காரணமாக இருப்பது

அ. பூச்சிகள்

ஆ. விலங்குகள்

இ. பறவைகள்

ஈ. மனிதர்கள்

12. காடுகள் அழிக்கப்பட்ட பகுதிகளில் மீண்டும் காடுகளை வளர்ப்பது

அ. காடு வளர்ப்பு

ஆ. காடு மீன் வளர்ப்பு

இ. காடு அழிப்பு

ஈ. காடு மீன் அழிப்பு

13. உலகின் மிகப்பெரிய மழைக்காடு

அ. அலையாத்தி காடு

ஆ. சதுப்பு நில காடு

இ. அமேசான் காடு

ஈ. பசுமை மாறா காடு

14. அழியும் தருவாயில் உள்ள தமிழ்நாட்டின் மாநில விலங்கு

அ. ஜல்லிக்கட்டு காளை

ஆ. குதிரை

இ. புலி

ஈ. நீலகிரி வரையாடு

15. பூமியிலிருந்து முற்றிலும் அழிந்துபோன உயிரினம்

அ. பனிச்சிறுத்தை

ஆ. டெனோசர்

இ. முதலை

ஈ. மனித குரங்கு

16 சுற்றுச்சூழல் தினம் கொண்டாடப்படும் நாள்

அ. மார்ச் 21

ஆ. ஜூன் 5

இ. செப்டம்பர் 16

ஈ. ஜூன் 28

கோடிட்ட இடங்களை நிரப்புக.

17. சிப்கோ இயக்கம் ஒரு முக்கியமான _____

இயக்கமாகும் .

18. உலகின் 20% ஆக்ஸிஜனை அமேசான் காடு உற்பத்தி செய்வதால் இது _____ என்று அழைக்கப்படுகிறது .

19. மரங்களை வளர்க்க 1977 ஆம் ஆண்டு கென்யாவில்

உருவாக்கப்பட்ட இயக்கம் _____.

20. ஒவ்வொரு ஆண்டும் மே- 22 ஆம் நாள் உலக உயிரிகளின் _____

_____ தினமாக

கொண்டாடப்படுகிறது.

மதிப்பெண் பட்டியல்

வ. எண்	மாணக்கரின் பெயர்	முன் தேர்வு	பின் தேர்வு
1	ரா. பிரகாஷ்	35	64
2	மு. முருகன்	32	65
3	ரா. யுவராஜ்	25	65
4	ப. கவியரசு	20	70
5	வே. ஜயப்பன்	25	65
6	மு. மாதவன்	30	82
7	ரா. ஷங்கர்	36	85
8	க. கோகுல்	32	76
9	ரெ. மணிமுத்து	44	72
10	த. ரோகித்	18	45
11	ரா. மதன்ராஜ்	24	76
12	மு. பாண்டிதுரை	25	78
13	இ. ஆகாஷ்	15	40
14	வ. சந்தோஷ்	16	30
15	க. மதியழகன்	28	76
16	கி. தனவேல்	35	82
17	வ. பூவரசன்	40	80
18	க. மதியழகன்	50	82
19	கு. தமிழரசன்	24	55
20	க. சசீலா	25	64
21	ரா. கோகிலா	10	50
22	ச. சாந்தினி	15	38
23	அ. காயத்ரி	26	50

24	ந. பவித்ரா	25	76
25	மு. வசதாரணி	35	70
26	கா. ஹேமலெட்சுமி	24	65
27	சி. கார்த்திகா	20	72
28	இரா. ஹேமா	32	75
29	மு. திவ்யா	20	72
30	ச. கார்த்திகா	22	75
31	பா. பவாணி	25	86
32	இரா. மதுமிதா	22	84

PHOTOS



