

“CHINNARA VANADARSHANA”

Nature Camp to BRT Wildlife Sanctuary

Government High School, Banavasi



February 22nd and 23rd, 2016



Contents

Acknowledgments

Introduction	-	1
Education Partners	-	2
Approach	-	3
Activities in Brief	-	4
Schedule	-	5
Logistics	-	7
Conclusion	-	8
Annexure-1	Activity Details	- 9
Annexure-2	People involved	- 19
Annexure-3	Materials	- 19
Annexure-4	Bibliography	- 20
Annexure-5	Photo Gallery	- 21

ACKNOWLEDGEMENTS

First and foremost thanks for the Forest Department, Govt. of Karnataka for initiating an amazing program.

We thank Dr.Sunil Panwar, DCF, BNP in spite of the busy schedule, squeezing some time and being in forefront in taking the Government initiated program and prioritising kids outreach. Sri Munitimma, RFO BNP and Sri Prasanna and all his office staff

Also thankful for Great support and his time Sri Lingaraj, CCF, BRT and RFO, Punjanur Sri Chandrakumar and his staff for wonderful interaction with children.

Blessings and inspiration from Swami Vishnumayananda, Ramakrishna Mission, Shivanahalli

Overwhelming support and participation by members of Wildlife Conservation Group, Bannerghatta.

Unanimous support from Sri Dunduraj, HM, GHS Banavasi and School staff

Thankful for all the housekeeping staff, cook for the sumptuous meal, and the KSRTC bus driver for his patience.

INTRODUCTION

Recent research has shown that more than any other factor, one thing that fosters environmental consciousness than anything else is: the simple act of **getting children outdoors**. Senegalese environmentalist Baba Dioum once said **"In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught."** With a similar vision on imparting the idea of conservation in kids, the Karnataka Forest Department initiated an ambitious project called **"Chinnara Vanadarshana"**. This projects aims to inculcate love and passion towards nature at a tender age by taking them to the wild. This we believe, has a counter effect of creating an environment conscious citizens. Students of class 9th from the Government High Schools located around the forests of Karnataka have been selected. Govt. of Karnataka have selected places where kids can get a first hand experience of our natural assets and feel closer to nature.

Working together with the forest department is an imperative today and inspired citizens have been joining hands with the department to aid them in documentation, monitoring and conserving our forests. **"Chinnara Vanadarshana"** project provides a platform for a dialogue between kids and the forest officials directly. This will not only bridge the gap between the community and forest department but will also help in furthering governmental measures taken to conserve such areas.

"The earth, the air, the land and the water are not an inheritance from our fore fathers but on loan from our children. So we have to handover to them at least as it was handed over to us." -Gandhiji

About Biligiri Rangaswamy Temple(BRT) Wildlife Sanctuary

BRT needs no introduction and is one among the most auspicious protected areas of Karnataka which spans 539 Sq.kms. This ecological asset has a major role linking eastern ghats and western ghats It was declared a tiger reserve in 2011 which earmarked the ascent of not only the tiger but the population of all life forms. Professional and passionate officers have dedicated their lives in protecting this rich eco space. This best fits an example of human-animal co-existence quoting the soligas. BRT is also the experimental child of KFD wherein unique projects like Huli and community projects have been successfully implemented and results reaped have set BRT and KFD become role models for the entire nation.

Education Partners

Ramakrishna Mission, Shivanahalli¹ was started in the year 1983 focusing on integrated approach towards development in the hamlets around Bannerghatta forest near Bangalore. The Mission conducts extensive work in the areas of education, health-care, rural development, tribal welfare, environment conservation and culture. The Mission bases its work on the motto of the organization ***Atmano Mokshartham Jagad-hitaya Cha***. Translated from Sanskrit it means *For one's own salvation, and for the good of the world*.

Ramakrishna Mission Shivanahalli along with the BNP, Karnataka Forest Department proposes to bring all interested individuals and organizations to a common platform for the conservation and preservation of nature and wildlife of Bannerghatta National Park for the future progeny.

The whole initiative is 'Cause Centric' and is named as "**Conserve And Preserve BNP**". The idea of the mission is to make conservation a movement. Conservation awareness programs in the education institutions around BNP being the main motto

Wildlife Conservation Group (WCG) is a small self-sustained group of around a dozen members. This organization conducts wildlife photography exhibitions - displaying dozens of their own beautiful photographs - at schools surrounding BNP and Bandipura buffer-zone. Their interactions have been mainly with rural students. WCG² always emphasize the interdependency of humans with the forest. They never stopped in their efforts of self-study about the scientific aspects of Nature - after all, they have the forest itself as our backyard laboratory. WCG tries to reach out as much their capacity enables us to.

Since November 2010, WCG is publishing a monthly e-magazine in Kannada language called 'KAANANA', which includes many articles related to wildlife, environment, Nature, science, literature and also some of their nature & wildlife photos. *Kaanana*³ mainly brings out the new findings of flora & fauna of BNP, stories & poems by students of villages of BNP.

¹ website : www.rkmission-shivanahalli.org, cap.rkmission-shivanahalli.org

² website: www.indiawcg.org
e-mail: wcg.bnp@gmail.com

³ website: www.issuu.com/kaanana

Approach

The way natural environment works and how humans should behave to manage ecosystem to sustain environment is part of the environmental education. Certainly it should not be limited to textbooks and academic scoring. It's an established fact that conserving nature and environment will be much easier if children are taught about depleting resources, environmental pollution, land sliding and degradation and extinction of plants and animals. Education is a sort of investment that turns into a valuable asset over a period of time. Its imperative now that to protect and manage our environment we need to have a sound environmental education and outreach. Because of the societal shifts, today's children are busy playing indoor games and electronic gadgets. They spend most of their time in watching television, listening to music, playing video games or surfing Internet or using computer. They have no time to travel around and to explore the natural world around them. When there is such level of detachment wherein do we expect our children to gain respect and love towards nature and our depleting natural assets.

The approach towards attaining such noble ideas in a short period of two days is looked only as a starting point. Whatever we plan and achieve in two days will go in vain unless it is followed up.

All the programs planned were hands-on, group and skill based. We tried to avoid digital programs like screening and ppt's to make the best use of the opportunity in the forest to preserve its aesthetic sense. It could be done in their schools and as follow up activity also. The activities focused on understanding the ecology, the balance in nature, sustaining basic needs, man-animal conflict, identifying characteristics of life forms, observational skills, role of forest department and an individual, conservation in their locale, geography and mapping etc.

All the natural reserves and their level of protection like Tiger reserves, National Parks etc. given by Karnataka Forest Department was also briefed with the laws pertaining to them like the Wildlife Protection Act 1972.

Activities

Due to the holistic approach that we undertook, we focused on not just safari, campfire, walk in the woods but also activities such as nature folk songs and a series of group activities around various aspects of environmental conservation. These group activities included the following:

1. Spinning the Eco Web
2. Bark and Leaf Bites
3. Communication in Bees
4. Making Sense of the World
5. Find Height of a Tree
6. Treasure Hunt

All the group activities must be ensured that they present among all groups so that all the concepts will be inherited by others.

Further, various short skits on pertinent issues such as

1. human - animal conflict,
2. tribal cultures,
3. role of forest department,
4. snakebite and first aid,
5. forest fires
6. BRT after 2050

among others were performed collaboratively between participants and resource persons. We also introduced the participants to ideas such as mapping forests and animal behaviour, waste management among others. A visit to Biligiri Rangaswami Temple, the presiding deity of the forest was also included in order to make them aware of the spiritual and cultural dimensions of forest conservation.

Meticulous planning for over seven days before the travel date ensured the activities as planned carefully. Activities were planned such that there were enough room for dynamic changes in the camp. One activity was omitted and other activity was introduced depending on the local circumstances. Day wise list of activities is presented in the tables below. Annexure 1 contains a detailed note on some key activities contained in this list.

Schedule

Agenda for 22/02/2016 Monday

5.00 am	Leaving Banavasi	
10.00 am	Reaching BRT	
10.00 am-11.00 am	Fresh-up and Breakfast	
11.00 am – 11.30 am	BRT <i>ondu kirunota</i>	Sri Chandra Kumar, RFO
11.30 am – 12.00 am	Gumpugarike	Making 6 groups of 9 children by animal or birds behavior recognizing
12.00 pm – 1.15 pm	Nakase vikshane	Understanding reading of maps through puzzle behind the map.
1.30 pm – 2.30 pm	Lunch	
2.30 pm – 4.30 pm	Ekakalada chatuvatike + question answer session	Separate Activities assigned to each group and they are asked to present the activity in front of everyone.
4.30 pm – 4.45 pm	Tea break	
4.45 pm – 6.45 pm	Safari and story building	1 batch safari and other story
7.00 pm – 7.30 pm	Discussion with kids	CCF, Sri Lingaraj
7.30 pm – 8.30 pm		Activities presentation by groups
9.00 pm – 9.30 pm	singing environment related songs/Diary writing/ talk /	
9.45 pm	Lights off	

Agenda for 23/02/2016 Tuesday

5.00 am – 6.00 am	Wake-up and ablution	
6.00 am – 6.05 am	Prayer	
6.10 am – 8.30 am	Biodiversity study of BRT by walking in game trials	
8.30 am – 9.30 am	Breakfast	
10.00 am – 10.30 am	Walk review and sharing	
10.30 am – 1.30 pm	Short Skits	45 minutes script writing for the kids, and they have to act for 10 minutes for the given topic
1.30 pm – 2.30 pm	Lunch	
2.30 pm – 3.00	Certificate distribution and book distribution and Photography	
3.00 pm -6.00 pm	Visiting Biligiriranga Swamy temple and Vivekananda tribal school via k.gudi	
6.00 pm	Leaving BRT	
10.00 pm	Arriving banavasi	
Route Map		

Logistics

A Total of 47 students and 11 resource persons which included a young lady comprised the team.

KSRTC bus 55 seater was booked a week before from Harohalli depot which was close to the school campus. Calculating the time we couldn't leave as per the plan of 5.am but left at 6.15 and reached the camp at 10.30. Distance between the school and BRT was about 200kms

Breakfast was ready by the time we reached. About the food the cook in the camp was kind enough to prepare food on time for the kids. Simple meals of anna/sambar was the menu. Thankfully food was awesome. A sweet dish in the menu added smiles on kids.

The accommodation was pretty good for a camp. Boys and male staff shared a common AV room. Though the toilets were unusable since renovation work was going on. Boys had to rely on nature for the activities. Luckily there was a stream running beside the camp. Girls and lady staff shared the IB with water and toilet facilities. All their work went on undisturbed.

Feedback

Resource persons expressing solidarity unanimously vote as an enchanting experience. Most of the kids expressed that never before they had a chance to express the love for nature they had. One girl enquired the Forest officials that can such work be done by women and what are the options. Few of them picked up the observation skills and started identifying the birds for themselves. Most of them expressed that they would try to plant and take care of them, which indicates they have understood the importance of habitat. The close up vision of animals freely roaming in the forest without human fear impressed upon a boy.

Only drawback we felt was the programs came to implementation during exam time and many schools were reluctant. There is lot of process of getting permission from BEO which naturally will be denied. So, all such programs should happen within January of the academic year.

As suggested the follow up activities have to be implemented so that the 2 day rich experience is enhanced. Concepts and ideas can be picked up from the file attached in the annexure

Conclusion

Development versus environment is an important current debate. Despite our nation's heritage and the vitality given the environmental movement has been unable to creatively contribute to policies in contemporary India. Political systems have been a complete failure in upholding the interests of our natural heritage. Prudent and sustainable use of our nation's natural resources are in the interests of a vast majority of youth and student community.

Biodiversity of our nation is so valuable that the deep rooted economical perspective of our natural resources should be overturned. An awareness that, striving in this world can only happen when we live in harmony with nature has to be created. Conservation of all our natural resources, biodiversity, habitats, wildlife etc. are each individual's responsibility. Since this is the right age to instil such conservation ideas, a visit to such protected areas might make a huge impact. Programs such as "Chinnara Vanadarshana" are the need of the second for every child. Only meticulous planning ahead can ascertain smooth flow of activities and sow some seeds of conservation in the kids. We congratulate the Government of Karnataka and Forest Department for taking such a novel initiative. With increased eco-consciousness we can certainly hope for a better sustainable harmonious future generation.

Annexure-1

Activities in detail

A1.ಗುಂಪುಗಾರಿಕೆ

ಇದರಲ್ಲಿ ಮಕ್ಕಳಿಗೆ ಒಂದೊಂದು ಚೀಟಿಯನ್ನು ನೀಡಲಾಗುತ್ತದೆ. ಇದರಲ್ಲಿ ಒಂದೊಂದು ಜೀವಿಯ ಹೆಸರಿರುತ್ತದೆ. ಒಬ್ಬರು ಬಂದು ಅದರಲ್ಲಿ ಇರುವ ಜೀವಿಯ ನಡವಳಿಕೆಯನ್ನು ಎಲ್ಲರ ಮುಂದೆ ತೋರಿಸಬೇಕು ಅದನ್ನು ಕಂಡುಹಿಡಿದು ಮುಂದೆ ಆ ಜೀವಿಯ ಹೆಸರಿರುವವರು ಮುಂದೆ ಬರಬೇಕು ಬಂದು ಗುಂಪಿನವರು ಮೊದಲು ಒಬ್ಬರನ್ನೊಬ್ಬರು ಪರಿಚಯ ಮಾಡಿಕೊಂಡು ಎಲ್ಲರ ಮುಂದೆ ಒಬ್ಬರು ಇನ್ನೊಬ್ಬರ ಪರಿಚಯ ಮಾಡಿಕೊಡಬೇಕು. ಅವರಿಗೆ ಸಿಕ್ಕ ಜೀವಿಯ ಹೆಸರು ಆ ಗುಂಪಿನ ಹೆಸರಾಗುತ್ತದೆ.

ಆಯ್ಕೆ ಜೀವಿಗಳು

ಆನೆ , ಜಿಂಕೆ, ಹುಲಿ, ಕೋತಿ(ಲಂಗೂರ್), ಕರಡಿ, ನವಿಲು.(can be anything)

A2. ನಕಾಶೆ ವೀಕ್ಷಣೆ

ಹಾಳೆಯ ಒಂದು ಬದಿಯಲ್ಲಿ BRT ನಕಾಶೆ ಇದ್ದು ಮತ್ತೊಂದು ಬದಿಯಲ್ಲಿ ಒಂದು ಜೀವಿಯ ಚಿತ್ರ ಇರುತ್ತದೆ ಮಕ್ಕಳು ನಕಾಶೆಯ ಅಥವಾ ಪ್ರಾಣಿಯ ಕತ್ತರಿಸಲಾದ ಚಿತ್ರವನ್ನು ಜೋಡಿಸಿ ಅದರಲ್ಲಿರುವ ಪ್ರಶ್ನೆಗೆ ಉತ್ತರಿಸಬೇಕು.ನಕಾಶೆಯ ಹಿಂದೆ ಇರುವ ಪ್ರಾಣಿಗಳ ಚಿತ್ರಗಳು ಮತ್ತು ಪ್ರಶ್ನೆ

- ಹುಲಿ
 - *ಹುಲಿಗಳಲ್ಲಿ ಪಟ್ಟೆಗಳು ಏಕೆ ಇವೆ?
- ಆನೆ
 - *ಆನೆಗಳಿಗೆ ಕಿವಿಗಳು ಏಕೆ ದೊಡ್ಡದಾಗಿವೆ?
 - *ಆನೆ ನಿದ್ದೆ ಮಾಡುತ್ತಾ ? ಹೇಗೆ?
- ಮಂಗಟ್ಟೆ ಪಕ್ಷಿ (ನಾವೆ ಮಕ್ಕಳಿಗೆ ಹಕ್ಕಿಯ ಹೆಸರನ್ನು ಹೇಳುವುದು)
 - *ಕೊಕ್ಕು ಏಕೆ ಉದ್ದ ಇದೆ?

- ದೊಡ್ಡ ಸಂಪಿಗೆ ಮರ
 - *ಚಂಪಕವನದಲ್ಲಿ ಫಮಫಮ ಹೂ ಬಿಡುವ ಮರ ನಾನು ಯಾರು?
- ಚಿಟ್ಟೆ
 - *ಕಂಬಳಿಹುಳುಗಳಿಗೂ ಚಿಟ್ಟೆಗಳಿಗಿರುವ ಸಂಬಂಧವೇನು?
 - *ಚಿಟ್ಟೆಗಳ ಆಹಾರವೇನು?
- ಹೆಬ್ಬಾವು
 - *ಹಾವುಗಳು ನಾಲಿಗೆಯನ್ನು ಯಾಕೆ ಹೊರಚಾಚುತ್ತವೆ?
 - *ಇದು ವಿಷಕಾರಿಯೇ?

A3. ಏಕಕಾಲದ ಚಟುವಟಿಕೆಗಳು

A3.1) ಜೀವಜಾಲ

ಉದ್ದೇಶ:

ಪರಿಸರದಲ್ಲಿ ಪರಸ್ಪರಾವಲಂಬನೆ ಮತ್ತು ಆದರ ಪರಿಣಾಮ

ಚಟುವಟಿಕೆ:

ಅನೇಕ ಜೀವಿಗಳ ಪಟ್ಟಿ ಮಾಡಿ, ಒಂದೊಂದು ಜೀವಿಗೆ ಒಂದೊಂದು ಕಾರ್ಡ್ ತಯಾರಿಸಿ

ಚಾರ್ಟ್ ಪೇಪರ್ ನಿಂದ ಕಾರ್ಡ್ ನ್ನು ಆಯತಾಕಾರದ ಜೀವಿ ಹೆಸರೋ ಅಥವಾ ಚಿತ್ರ ಇರುವ ತುಂಡುಗಳಾಗಿ ಕತ್ತರಿಸಿ

ವಿದ್ಯಾರ್ಥಿಗಳು ಒಂದು ವೃತ್ತದಲ್ಲಿ ಕುಳಿತುಕೊಳ್ಳುತ್ತಾರೆ.

ಪ್ರಕೃತಿಯ ಮೂಲಗಳಾದ 'ಸೂರ್ಯ', 'ಮಣ್ಣು', 'ಗಾಳಿ' 'ಜಲ' ನಾಲ್ಕು ಪ್ರಮುಖ ಅಂಶಗಳನ್ನು ಸೇರಿಸಿ

ದಾರದ ಉಂಡೆಯನ್ನು ತೆಗೆದುಕೊಂಡು ಸೂರ್ಯನಿಂದ ಆರಂಭಿಸಿ ತನ್ನ ಬೆರಳನ್ನು ಸುತ್ತಿಕೊಂಡು ಮುಂದೆ 'ಮರಕ್ಕೆ' ಕೊಡಬೇಕು. ಅದನ್ನು ಬೆರಳಿಗೆ ಸುತ್ತಿ ಹಾಗೆ ಒಂದು ಜೀವಿಯಿಂದ ಮತ್ತೊಂದಕ್ಕೆ ಪಾಸ್ ಮಾಡಬೇಕು. ಯಾವುದೇ ಕಾರಣಕ್ಕೂ ಸಡಿಲಿಸಬಾರದು

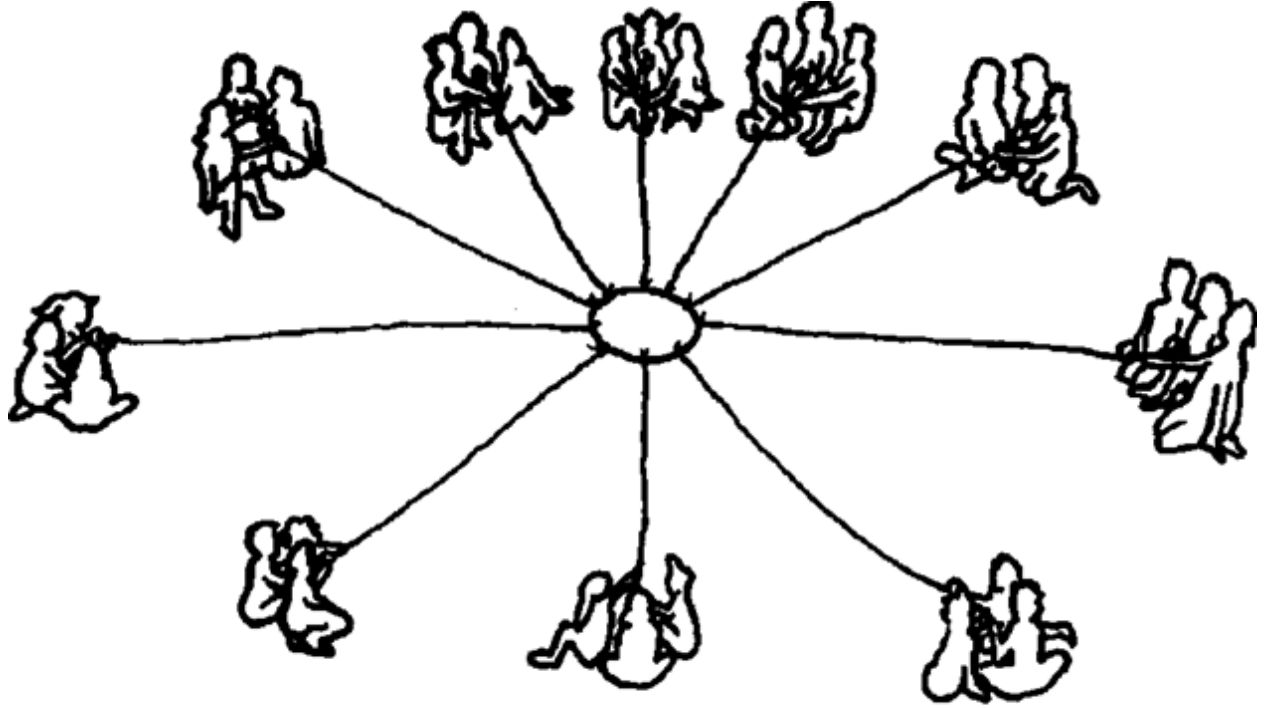
ಸಂಕೀರ್ಣ ಜಾಲ ಸೃಷ್ಟಿಯಾದ ಮೇಲೆ ವಿದ್ಯಾರ್ಥಿಗಳನ್ನು ಗಮನಿಸಲು ಹೇಳಿ. ನಿಧಾನವಾಗಿ ಎಲ್ಲರೂ ಕೈ ಮೇಲೆತ್ತುವುದಕ್ಕೆ ಹೇಳಿ ಯಾವುದಾದರೊಂದು ಜೀವಿ (ನಾಶವಾದಂತೆ) ಕಳಚಿಕೊಂಡರೆ ಆಗುವ ಬದಲಾವಣೆಗಳ ಬಗ್ಗೆ ಚರ್ಚಿಸಿ. ಹಾಗೆ ಇನ್ನೊಂದು ಜೀವಿಗಳಿಗೆ ಮಾಡಿ.

ವಿದ್ಯಾರ್ಥಿ ಸಂಖ್ಯೆ ಕಮ್ಮಿ ಇದ್ದರೆ ಎರಡು ಮೂರು ಸುತ್ತು ಬೇರೆ ಜೀವಿಗಳ ಕಾರ್ಡ್ ಕೊಡಬಹುದು

ಸೂರ್ಯ ಅಥವಾ ಇತರ ಮೂರು ಪ್ರಮುಖ ಮೂಲಗಳು ಕಳಚಿಕೊಂಡರೆ ಏನಾಗಬಹುದೆಂದು ವಿದ್ಯಾರ್ಥಿಗಳು ಕೇಳಿ

ಕಲಿಕೆ:

ವಿದ್ಯಾರ್ಥಿಗಳು ಹೇಗೆ ಪ್ರಕೃತಿಯಲ್ಲಿ ಅವಿನಾಭಾವ ಸಂಬಂಧಗಳು ಅಸ್ತಿತ್ವದಲ್ಲಿವೆ ಮತ್ತು ಅವುಗಳು ಏಕೆ ಮುಖ್ಯವಾಗಿವೆ ಎಂಬುದನ್ನು ಹೇಳಿ ಚಟುವಟಿಕೆಯ ನಂತರ ಪುಸ್ತಕದಲ್ಲಿ ಬರೆಯುವುದು.



Ecoweb
Circle of kids holding string.

A3.2. ತೊಗಟೆ ವೀರರು

ಉದ್ದೇಶ:

ವಿವಿಧ ಮರಗಳು ವಿಶಿಷ್ಟ ತೊಗಟೆ ಗುಣಲಕ್ಷಣಗಳನ್ನು ಹೊಂದಿರುವುದನ್ನು ಅರಿಯಲು.

ವಾಸನೆ, ಸ್ಪರ್ಶ, ಹಾಗೂ ವೀಕ್ಷಣಾ ಕೌಶಲವನ್ನು ಬಳಸಿ ಮರಗಳನ್ನು ಅಧ್ಯಯನ ಮಾಡಲು.

ಚಟುವಟಿಕೆ:

ವಿವಿಧ ಮರಗಳ ಬೆಳೆಯುವ ಸ್ಥಳ ಆಯ್ದುಕೊಳ್ಳಿ. ಪ್ರತಿ ವಿದ್ಯಾರ್ಥಿ ಬೇರೆ ಬೇರೆ ಮರದ ಆಯ್ಕೆ ಮಾಡಲಿ. ಕೈಗಳಿಂದ ವಿವಿಧ ಮರಗಳ ತೊಗಟೆಗಳನ್ನು ಸ್ಪರ್ಶಿಸಿ ಅನುಭವಿಸಲಿ. ಸೂಕ್ಷ್ಮವಾಗಿ ವೀಕ್ಷಿಸಲಿ. ಕೀಟಗಳನ್ನು ಗಮನಿಸಲಿ. ಕೆಲವು ಮರಗಳ ತೊಗಟೆಗಳು ವಿಶಿಷ್ಟ ವಾಸನೆ ಹೊಂದಿವೆ. ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯತ್ಯಾಸಗಳನ್ನು ಬರೆಯಲಿ. ಪ್ರತಿ ತೊಗಟೆ ವಾಸನೆ ವರ್ಣಿಸಲಿ. ಆರಂಭದಲ್ಲಿ ಮರಗಳ ಗುರುತು ಅನಿವಾರ್ಯವಲ್ಲ. ತೊಗಟೆಯ ಮೇಲೆ ಒಂದು ಕೈಯಲ್ಲಿ ಖಾಲಿ ಕಾಗದದ ಹಾಳೆಯನ್ನು ಇರಿಸಲು ಹೇಳಿ ಮೃದುವಾದ ಪೆನ್ಸಿಲ್‌ನಿಂದ ಉಜ್ಜಬೇಕು. ತೊಗಟೆಯ ರಚನೆ ಕಾಗದದ ಮೇಲೆ ಮೂಡುವುದು.

ಅವರು ವರ್ಣಿಸಿದಕ್ಕೂ ಇದಕ್ಕೂ ಹೋಲಿಸಿ ನೋಡಲು ಹೇಳಿ, ತೊಗಟೆಯ ರಚನೆಯಿಂದ ಮರದ ಗುರುತು ಕಂಡಹಿಡಿಯಲು ಹೇಳಿ.

ಕಲಿಕೆ:

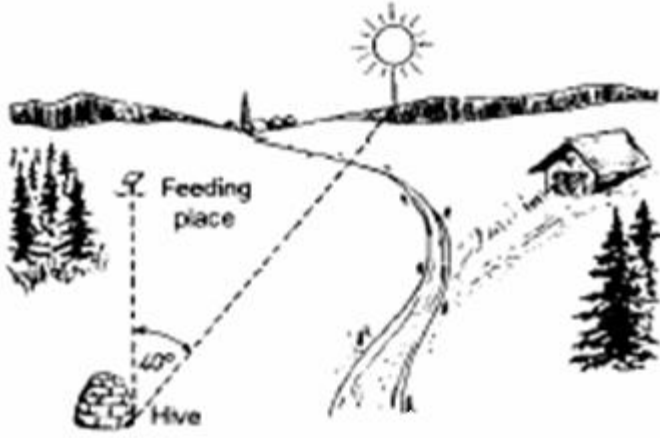
ತೊಗಟೆಯ ಮಹತ್ವ, ಗುರುತಿನ ರಚನೆಗಳು, ಅನ್ಯ ಜೀವಿಗಳ ಅವಲಂಬನೆ

A3.3 Bee Communication

Objective : To build the observation capability in students about the surrounding environment through an activity called "Bee Communication" wherein which they understand how a small insect like bee, communicates with its co-bees. Honey bees illustrate some of the interactions between insects, plants and the environment.

Materials required : Drawing Sheets, sketch pens and clips.

Procedure : First and foremost we need to know is that bees communicate through an action called "Bee Dancing". This is surprising as well as a unique mode of communication. When some bees go out and find flowering or feeding place they have to come back and inform their mates to go for feeding in large for that they will remember the sight and fly back to their hive.



To do this they will stand in the the axis of the hive (the imaginary line drawn from position of sun through the hive) and dance sweeping the angle say 40degree as shown in figure and come back to the position, which says,that is the direction with which they all have to travel for feeding.

Not only that but they are also said that they indicate the distance to travel through their time taken to dance and move to sweep 40degree.

If they are fast in motion that means that the feeding place is close by otherwise its a long way to go.

Note : A question may arise about sun changing its position as its routine to move from east to west.

Here the axis of the hive also changes with the sun's position and the bees are also aware of it.

A group of 8-9 members can enact the whole communication here.They are supposed to write the sketches of 3 bees,3 flowers,one sun and a tree(One sketch in a sheet) also colour them with suitable attractive colours using sketch pens etc. One will take the role of being a tree, one will be sun, and three each can be flowers and bees and a narrator. The narrator will explain the bee activities and what their dance mean.

Now the enacting takes place, 3 bees will stick to the tree,3 flowers will be away from the tree and sun will be in some other direction.Now as the narrator narrates that how bees communicate, the action is enacted..

Assessment : We should make sure that every member in the team understands,how exactly the dancing of bees makes the effective communication mode between them.And by which we will be creating a consciousness about observing nature through a deeper sight and which helps them to drag themselves to nature's' unseen secrets.

A3.4. ನಿಧಿ ಹುಡುಕಾಟ

ಉದ್ದೇಶ: ಸುತ್ತಮುತ್ತಲಿನ ಪರಿಸರದ ಮರಗಳ ಪ್ರಭೇದವನ್ನು ಗುರುತಿಸುವುದು

ಬೇಕಾದ ವಸ್ತುಗಳು: ಮರಗಳ ಫೀಲ್ಡ್ ಗೈಡ್ ಪುಸ್ತಕ, ದಿಕ್ಕೂಚಿ(compass)

ವಿಧಾನ: ಮೊದಲು ಸುತ್ತಮುತ್ತಲು ಇರುವ ಎಳರಿಂದ ಎಂಟು ಮರಗಳನ್ನು ಆಯ್ಕೆ ಮಾಡಿ ಅವುಗಳ ಮೇಲೆ ಒಗಟಿನ ರೀತಿ ಪ್ರಶ್ನೆಗಳನ್ನು ತಯಾರಿಸಿಕೊಳ್ಳಬೇಕು. ಒಂದು ಪ್ರಶ್ನೆಯನ್ನು ಮಕ್ಕಳಿಗೆ ನೀಡಲು ಇಟ್ಟುಕೊಂಡು ಉಳಿದ ಪ್ರಶ್ನೆಗಳನ್ನು ಮರಗಳು

ಸುತ್ತಲೋ ಅಥವಾ ಮರದ ಕಾಯಿ, ತೊಗಟೆ, ಎಲೆಯ ಮಧ್ಯದಲ್ಲಿ ಕೈಗೆ ಎಟಕುವ ಹಾಗೆ ಬಚ್ಚಿಡಬೇಕು. ಆ ಒಗಟುಗಳು ಮರದ ಲಕ್ಷಣವನ್ನು ಅಥವಾ ಉಪಯೋಗಗಳಲ್ಲಿ ಯಾವುದು ಮಕ್ಕಳಿಗೆ ಗುರಿಸಲು ಸುಲಭವಾಗಿರುತ್ತದೋ ಅದನ್ನು ಆಯ್ಕೆಮಾಡಿ ಮೊದಲ ಮರದ ಚೀಟಿಯನ್ನು ಮಕ್ಕಳ ಕೈಗೆ ಕೊಟ್ಟು ಹುಡುಕಲು ಹೇಳಬೇಕು. ಅವರು ಆ ಒಗಟನ್ನು ಅರ್ಥಮಾಡಿಕೊಂಡು ಮರದ ಬಳಿ ಬಂದು ಚೀಟಿಯನ್ನು ಹುಡುಕಿದಾಗ ಅದರಲ್ಲಿ ಮುಂದಿನ ಮರದ ಒಗಟು ಹಾಗೂ ಯಾವ ದಿಕ್ಕಿಗೆ, ಎಷ್ಟು ಡಿಗ್ರಿಗೆ, ಎಷ್ಟು ದೂರದಲ್ಲಿದೆ ಎಂದು ಚೀಟಿಯಲ್ಲಿ ಬರೆದಿರುವುದನ್ನು ಓದಿ ಮಕ್ಕಳು ಮುಂದಿನ ಮರವನ್ನು ಹುಡುಕಬೇಕು. ಹೀಗೆ ಒಂದೊಂದೇ ಒಗಟನ್ನು ಬಿಡಿಸಿ ಮರಗಳನ್ನು ಹುಡುಕುತ್ತಾ ಕಡೆಯ ಮರದ ಬಳಿ ಬಂದ ಮಕ್ಕಳಿಗೆ ಕಡೆಯ ಚೀಟಿಯಲ್ಲಿ ನೀವು ನೋಡಿದ ಎಲ್ಲಾ ಮರಗಳ ಹೆಸರನ್ನು ಅವುಗಳ ಲಕ್ಷಣಗಳನ್ನು ಅಂದರೆ ಮರದ ತೊಗಟೆಯ ವಿನ್ಯಾಸವನ್ನು, ಹೂ ಇದ್ದರೆ ಹೂವಿನ ಬಣ್ಣ , ಕಾಯಿಯ ಆಕೃತಿ, ಮರದ ಉದ್ದ , ದಪ್ಪ , ಎಲೆಗಳ ವಿನ್ಯಾಸವನ್ನು ಹಾಗೂ ಅವುಗಳಲ್ಲಿ ಏನಾದರೂ ವಿಶೇಷವಿದ್ದರೆ ಪಟ್ಟಿಮಾಡಿ ಎಂದು ಬರೆದಿರಬೇಕು . ಯಾವ ತಂಡವು ಮೊದಲು ಎಲ್ಲಾ ಮರಗಳನ್ನು ಹುಡುಕಿ, ಗುರುತಿಸಿ ಲಕ್ಷಣಗಳನ್ನು ಪಟ್ಟಿ ಮಾಡುತ್ತದೋ ಆ ತಂಡವು ವಿಜೇತ ತಂಡವಾಗುತ್ತದೆ ಆ ತಂಡಕ್ಕೆ ದೊರೆಯುತ್ತದೆ.

ಫಲಿತಾಂಶ: ಮಕ್ಕಳು ಸುತ್ತ ಮುತ್ತಲು ಇರುವ ಮರ ಹಾಗೂ ಅವುಗಳ ಲಕ್ಷಣಗಳನ್ನು , ದಿಕ್ಕೂಚಿ ಉಪಯೋಗಿಸುವುದನ್ನು ಕಲಿಯುತ್ತಾರೆ.

Treasure Hunt

Objective : To identify trees around based on the clues given

Materials Required: field guide to identify trees , compass

Team strength: 3-4

Procedure:

Select 7-8 trees from the surrounding and form a puzzle question about each tree's characteristics or use whichever is easy to identify for children. Give one clue to children and keep all other clues in trees' bark or leaf, nut which contains puzzle question and also degree, direction, distance to the next target tree. In last clue ask them to list the names of all the trees they visited, its characteristics and leaf, bark pattern, height, girth. Those who completes the task first will be rewarded with a treasure!

Outcome: children will learn to identify trees, and using compass

A3.5 - Finding Height of a Tree

Objective: Here we see, how one can calculate the height of a tree using mathematics.

Materials Required: Plane sheet, Pencil, Protractor, Scissor, Tape.

Procedure:

1. Draw a Right angled triangle on a sheet of paper using protractor and cut the sheet and take triangle.
2. Choose an angle (theta or anything) in such a way that it's side is adjacent to 90 degree.
3. Here the side which is opposite to right angle will be considered as tree and the adjacent side will be considered as base or distance from the tree.
4. And we left with third side of right angled triangle (hypotenuse) which acts as a height and which has to be calculated.
5. Stand at the base of a tree and hold the triangle in front of your eyes where the right angle should be parallel to the tree and the angle theta should be pointing to your eyes.
6. After the position is fixed keep moving from the tree until there exist a coincidence between the tip of a tree and the tip of a triangle.
7. Once it is done mark the point and get the distance using tape from starting point to the point of coincidence.
8. So, substitute the values of theta and distance in the below given formula to get the value of height of a tree.

$$\rightarrow \tan(\theta) = \text{height} / \text{distance}$$

$$\rightarrow \text{height} = \tan(\theta) * \text{distance}$$

Note: " $\tan(\text{angle})$ " is a trigonometric function. That is $\tan(\text{angle}) = \text{opposite} / \text{adjacent}$.

A3.6 - Making Sense of the World

Objective : Animals have different sensory abilities which match the requirements of their way of life.

Materials : Basic blindfold trails: blindfold eg. a scarf - long piece of rope

Smell trail: smelly harmless 'chemical' eg. peppermint essence- lengths of wool or string

Bat games: blindfolded bat masks

Using it :



Sensory trails can be used to introduce a new environment so that participants 'look' at it from a new perspective. They can also be used to illustrate the adaptive importance of senses to some animals which are poorly developed in humans. They are also great fun!

Blindfold trails can be set out in any terrain and could include the built environment.

The smell trail can work in any environment, but needs opportunities for variations in the route. The wool is hung at regular intervals along a track, but every so often the route branches and the wool trail go in two or more directions. Work out the 'correct' route and soak the wool along this route only with the chosen essence.

1. Suggest that participants imagine that they are an animal that relies almost entirely on smell to find their way around. They may be able to think of some species which do this). Such animals keep to very regular pathways. The animal now needs to find its way home.

2. Participants follow the trail carefully smelling the wool. They make decisions at each junction about the route they need to follow.

The bat-game illustrates predator-prey interactions, the incredibly acute senses of some animals and the importance of having a strategy or plan to be effective in finding food.

1. Participants form a circle to keep one 'bat' and one or more 'moths' inside. Blindfold the 'bat' and ask all those in the circle to keep quiet.

2. The 'bat' can only find 'moths' by shouting 'bat' and waiting for a reply. Moths then shout 'moth', simulating a sonar message echoing to the predator.

3. Bats may realise that the best strategy is to produce a stream of sound (like a real bat) which produces more sound from the prey and makes location easier.

Rather than a blindfold trail, participants can form small groups and guide one person to a tree. After getting to know the tree by touch and smell, the participant is taken away and with the blindfold removed is asked to recognise their tree. Make the smell trail more fun by putting something at the end of each 'arm' of the trail eg. picture of the correct home for the animal at the end, and the homes of other creatures down each of the 'blind alleys'.

Vary the bat game by arranging the participants into a wide, but winding, path leading to a cave or roost. The 'bat' has to negotiate its way using the same sonar 'bat' call, but this time the 'wall' responds to any tails directed towards it, allowing the bat to keep clear of danger.

A4. Sequence of drawings from Elephant etiquette was displayed by the resource persons naming them. Children are free enough to choose the sequence and weave their own story. Ensure each one will write and read in the last

ಪಕ್ಷಿವೀಕ್ಷಣೆಗೆ ಸಲಹೆಗಳು

ಪಕ್ಷಿಗಳನ್ನು ಗುರುತಿಸಲು ನಿಮಗೆ ಅವಶ್ಯಕವಾಗಿ ಇರಬೇಕಾದ್ದಿದ್ದು ಚುರುಕಾದ ಎರಡು ಕಣ್ಣುಗಳು. ಒಂದು ಬರವಣಿಗೆಯ ಪುಸ್ತಕ, ಪೆನ್ನು ಮತ್ತು ಚಿತ್ರಗಳಿರುವ ಪಕ್ಷಿಗಳನ್ನು ಕುರಿತ ಪುಸ್ತಕ.

* ಮೊಟ್ಟ ಮೊದಲು ನಿಶ್ಯಬ್ಧತೆಯನ್ನು ಪಾಲಿಸಿ ತಾಳ್ಮೆಯಿಂದಿರ ಬೇಕು.

* ಕಪ್ಪು ಬಿಳುಪು ಮತ್ತು ಕಣ್ಣಿಗೆ ತುಂಬ ಎದ್ದು ಕಾಣುವ ಬಣ್ಣದ ಬಟ್ಟೆಗಳನ್ನು ಧರಿಸಬಾರದು. ಮಂಕಾದ ಒಣಗಿದ ಎಲೆಗಳ ಅಥವಾ ಮಾಸಲು ಹಸಿರು ಬಣ್ಣದ್ದಾಗಿರಬೇಕು .

* ಸಾಮಾನ್ಯವಾಗಿ ವಸಂತ ಋತು ಮತ್ತು ಬೇಸಿಗೆಯ ಆದಿಭಾಗ ವೀಕ್ಷಣೆಗೆ ಪ್ರಶಸ್ತ ಕಾಲ ಹಾಗೂ ದಿನದ ಪ್ರಾತಃ ಮತ್ತು ಸಂಜೆ ಕಾಲ ಅನುಕೂಲಕರ,

* ಟಿಪ್ಪಣಿ ಪುಸ್ತಕದಲ್ಲಿ ಬರೆಯಬೇಕಾದ ಮಾಹಿತಿ

* ದಿನಾಂಕ , ಕಾಲ

* ಹವಾಗುಣ

* ಗಾತ್ರ - ಸೂಚಿಕೆ (ಗುಬ್ಬಿ, ಬುಲ್ ಬುಲ್, ಮೈನ, ಕಾಗೆ, ಹದ್ದು, ಕೊಕ್ಕರೆ)

* ಸ್ವರೂಪ, ಮೇಲ್ನೋಟ, ರಚನೆ

* ಕೊಕ್ಕಿನ ಗಾತ್ರ ಮತ್ತು ಆಕಾರ

* ಕಾಲುಗಳ ಗಾತ್ರ ಮತ್ತು ರಚನೆ

* ಬಾಲದ ಉದ್ದ ಮತ್ತು ಆಕಾರ

* ಹಾರುವ ರಚನೆ

* ಕೂರುವ ಭಂಗಿ

* ಬಣ್ಣ - ಮೈಬಣ್ಣ, ತಲೆ, ಬೆನ್ನು, ಹಿಂಭಾಗದರೆಕ್ಕೆಗಳು, ಎದೆ, ಕೊಕ್ಕು, ಕಾಲು,

ಗಂಟಲು, ಹೊಟ್ಟೆ, ಬಾಲದ ಕೆಳಗಡೆ, ಪಕ್ಕದ ಮೇಲ್ಭಾಗ

* ಹಕ್ಕಿಗಳ ಧ್ವನಿ

ಪಕ್ಷಿವೀಕ್ಷಣೆಯಲ್ಲಿ ಪ್ರಮುಖವಾದ ಅಂಶ. ನಮ್ಮ ಚಾತುರ್ಯಕ್ಕೆ ಹಕ್ಕಿಗಳ ಚಾತುರ್ಯಕ್ಕೆ ಎರ್ಪಡುವ ಸ್ಪರ್ಧೆ.

ಜವಾಬ್ದಾರಿಯುತವಾಗಿ ವೀಕ್ಷಿಸಿದರೆ ಹೆಚ್ಚು ಸಂತ್ಯಾಪ್ತಿ ಪಡೆಯ ಬಹುದು.

ಇದೇ ರೀತಿಯನ್ನು ಪಾಲಿಸಿದರೆ ಸಾಮಾನ್ಯವಾಗಿ ಜೀವ ಜಾಲದ ಅನೇಕ ಬಗೆಯ ಜೀವಿಗಳ ವೀಕ್ಷಣೆಗೆ ಅನುಕೂಲವಾಗುತ್ತದೆ.

Annexure-2

List of resource persons

- Sri Murali S
- Sri Shankarappa KP
- Sri Nagesh OS
- Sri Vipin Baliga
- Sri Karthik AK
- Sri Ashwatha KN
- Sri Mahadeva KC
- Sri Jaikumar R
- Kum Geetha R

List of Faculty

Sri Rajesh
Sri Varadan
Sri Badri Prasad

List of Student List

Arun Kumar, Balaji.MR, Bhavana.BH, Chetan.s, Dileep.BN, Dinesh.BS, Divya.AM, Divya, Hemanth, Kavya.B, Kavyashree.JS, Krishna.JN, Madhu.BR, Mahadeva.JC, Mahesh.AC, Manukumar.K, Mohan.R, Mutturaj.G, Niranjana.K, Pallavi.S, Pradeepkumar.VM, Prema.s, Rajesh.s, Rakshita.BS, Ranjitha.JB, Ravishankar.BV, Reshma.T, Sampath.BV, Shankar.P, Shwetha.S, Sujatha.SC, Sumanth.GJ, Sunitha.G, Umesh.N,Varalakshmi, Varshitha.BJ, Ajaykumar.M, Avinash.Hs, Bhavya.BS, Bhoomika.D, Dharmendra.D, Darshan.P, Kumar.T, Likhitraraj.VS, Mahesh.JD, Pavankumar.KR, Prashanth.BR, Puttaraju.D, Punithkumar.BS, Rashmi.B, Rashmitha.R, Rakshitha.R, Sowmya,Sinchana.M

Annexure-3 Materials Used

Banner, certificates, printed animal pictures and map, pad, pen, pencil 60, NCF bird booklet, scissors, tape cardboard sheet, A4 white sheets, fevicol, color pencils, eraser, mender, campus, location map, thread, acrylic sheet, books(kannada sahitya parishat), first aid kit camera, field guide - trees, birds, butterflies, reptiles etc...binoculars, hand lens, prize materials, books etc

Children to bring : uniform + 1 pair of dark color dress, slipper/ shoes, medicine, water bottle, paste , brush, towel, soap, bedsheet, food plate, glass, parent's phone number

Provision : Rice, Vegetables, Salt, Tamarind, milk, pickle, papad, biscuits, sweets etc.

Rules and Regulations

- No plastics
- No packaged snacks like chips
- Silence and discipline in the camp and forest
- No roaming in and around the camp
- No cell phones, FM, MP3 etc.

Annexure-4 Bibliography

- Vana Sanjeevana - Environment Handbook for Teachers by Navakarnataka Pub.
- Ecosystem Matters - Environment Resource Guide by US Department of Agriculture
- UNESCO-UNEP International Environmental Education Programme
- Centre for Environmental Education, Govt. of India
- Environment related books from Kannada Sahithya Parishat
- Web.

Annexure-5 Gallery



Sri Chandrakumar RFO answering queries



In the lap of nature



Jigsaw mapping activity



Bark Bites



Height of a tree



Biodiversity observation



Birds eye view



Life of tribes – a skit



Inside the Jungle



Walk in the woods



Prayer in the camp fire



Fuel time



