

ABSTRACT BOOK

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(The abstract text provided is exactly as submitted by the participants)

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Project Code:Bio-01 (Team) (Jr)

Online ID:1587

**Title: EFFECT OF DIFFERENT COLORED LIGHT ON
FERMENTATION PROCESS**

**Name: RAVRANI DEVANSHI SHALIBHADRABHAI & PITRODA
BANSI BHARATKUMAR Std: 8**

Guide: JINKALBEN BANGORIYA

School: MATUSHREE L G DHOLAKIYA SCHOOLS

ABSTRACT:

To find out an innovative way for immediate fermentation process we used curd, gram flour, yeast, different color light and cardboard boxes of same size. Put four different color LED lights separately in each box. (Blue, red, green, white) for that we take bowl with 100 ml milk add 3 ml butter milk, test tube with 2 gm yeast and heat water, test tube with rice flour & gram flour. Keep close all the boxes after putting test tube / bowl with sample switch on the power supply & observe the bowl/test tube after 12 hrs, 24 hrs, 48 hrs.

Project Code:Bio-02 (Team)

Online ID:1588

**Title: Evaluation of repellent Effect of leaves extracts of Neem; Basil and
Betel Against Mosquitoes**

Name: NADPARA DHRUVI & MAKWANA JENSI Std: 9

Guide: RUCHIBEN TRIVEDI

School: MATUSHREE L G DHOLAKIYA SCHOOLS

ABSTRACT:

In our country there are many problems which are affecting people substantially on health and economy. Rural population is mainly affected by transmitted diseases due to two reasons; one is lack of cleanliness and knowledge on health and hygiene. The major goal behind my project is to kill or repel mosquitoes using leaves extract of neem, basil and betel which is of low cost and easily available. Eradicating mosquito directly is a difficult task; there are repellents which repel mosquitoes, but its population is not decreased. The major advantage is that are found in a mass at a single point where as mosquitoes are spread all over. The extract was made with isopropyl alcohol using neem basil and betel leaves and made into four concentrations was tested on different quantity of sample with the constant number of mosquitoes. The number of dead mosquito at the end of 24h was recorded and calculated. The concentrated leaves extracted of mentioned plant in isopropyl alcohol gave good results

Project Code:Bio-03 (Team) (Jr)

Online ID:1650

Title: Effect of Euphorbia hirta leaves extracts on bacteria and fungus

Name: Garsondiya Prachi & Ghetiya Hetvi Std: 8

Guide: Mrs. Apeksha Joshi Raval

School: Shree G.K.Dholakiya School; University Road;Rajkot

ABSTRACT:

There is a continuous need of new antimicrobial components due to rapid emergence of multidrug-resistant pathogens and explosive dreadful infectious diseases. There are many types of E.coli and most of them are harmless. But some can cause blood diarrhea. Some strains of E.coli bacteria may also cause severe anemia or kidney failure. Which can lead to death? Other strains of E.coli can cause urinary tract infections or other infections. Plants are natural source of antibacterial agent. Plant –derived medicines have been a part of our traditional health care system, and the antimicrobial properties of plant derived compounds are well documented. Herbal medicines are more effective and less harmful as they have negligible side effects. They exhibit low mammalian toxicity and can be handled easily. In Ayurvedic system of medicines Euphorbia hirta is reported to have potent activity for dental complaints. Urinary tract infections are the most frequent bacterial infection in women. They occur most frequently between the ages of 16 and 35 years, with 10% of women getting an infection yearly and more than 40–60% having an infection at some point in their lives. E. coli is the cause of 80–85% of community-acquired urinary tract infections, with Staphylococcus saprophyticus being the cause in 5–10%. Rarely they may be due to viral or fungal infections. Healthcare-associated urinary tract infections (mostly related to urinary catheterization) involve a much broader range of pathogens including: E. coli (27%), Klebsiella (11%), Pseudomonas (11%), the fungal pathogen Candida albicans (9%), and Enterococcus (7%) among others. Urinary tract infections due to Staphylococcus aureus typically occur secondary to blood-borne infections.[2] Chlamydia trachomatis and Mycoplasma genitalium can infect the urethra but not the bladder.[22] These infections are usually classified as a urethritis rather than urinary tract infection. Present study deals with evaluation of the phytochemical and antimicrobial activity of dry leaves ethanol, petroleum ether and water extracts of Euphorbia hirta a traditional medicinal plant. Phytochemical analysis carried out revealed the presence of alkaloids, flavonoids, tannins, saponins, protein in most of the medicinal plants. The efficacy of the plant extract has been assessed by testing on microbial activities causes diseases. Antimicrobial assay was carried out using disc diffusion method. Positive and Negative control samples were also maintained. We crushed the leaves, prepared extracts and checked antimicrobial activity against, Escherichia coli, Staphylococcus aureus and fungi yeast. Water extract of Euphorbia hirta leaves was found to be effective as antimicrobial against the micro flora.

Title: Effect Of Centratherum anthelminticum and Embelia ribes Seed extract on E-coli bacteria

Name: PARTH GAMDHA Std: 7

Guide: KRISHNABEN KABIR

School: G.K DHOLAKIYA PRIMARY SCHOOL-RAJKOT

ABSTRACT:

To check the effect of Centratherum anthelminticum and Embelia ribes Seed on e-coli bacteria, first of all we had taken seeds of Centratherum anthelminticum and Embelia ribes and removed dust and dirt from it. We crushed the seeds and prepared powder to check its antibacterial activity against Escherichia coli. We found mixture of seeds of Centratherum anthelminticum and Embelia ribes aqueous extract (crude method) showed the good results against bacterial strains. We obtained powder of Centratherum anthelminticum and Embelia ribes seeds. The active contents in the powder were extracted using crude method and the extract samples (Water) thus obtained was tested for activity against bacterial strains. Positive and negative control sample was also maintained. All the extracts showed significant activity against bacteria. Mixture of (1:1) Centratherum anthelminticum and Embelia ribes seed has good antibacterial against e-coli bacteria Escherichia coli with highest zone of inhibition (18mm) by aqueous extract, Mixture of (1:2) Centratherum anthelminticum and Embelia ribes seed has good antibacterial against e-coli bacteria Escherichia coli with highest zone of inhibition (19mm) by aqueous extract, Mixture of (2:1) Centratherum anthelminticum and Embelia ribes seed has good antibacterial against e-coli bacteria Escherichia coli with highest zone of inhibition (17mm) by aqueous extract,

Title: LOW COST REUSABLE GELPACKS FROM DIAPER GEL

Name: DHYEY RASIKBHAI BALDHA & PRIYANSHU ALPESHBHAI VALERA Std: 7

Guide: VIRAL NAYANBHAI CHOTAI

School: K. G. DHOLAKIYA; RAJKOT

ABSTRACT:

Our project is to make gel packs which can be easily made from diapers which can prevent muscular pain, bone pain, minor cracks and stops light bleeding. We research it but it takes lot of effort and time but our product is cheap and can be made easily at home. Gel pack is portable pack filled with water and gel. We are using SAP (super absorbent polymer) as gel in packs. They are totally Non toxic and safe and can be used to prevent physical and nerve pain. Purpose: - It is effective and drug free, controls pain, controls swelling, can give relief from injury during sports, reduce inflammation, cheap and effective, used on sprained or twisted joints, used on insect bite. The gel packs are better than any other gel packs

available in the market and are not expensive. It can cost 300 Rs. The gel packs that we have made are cheaper than any other gel packs available in the market.

Project Code:Chem-01 (Team)

Online ID:1667

Title: ECO FRIENDLY GUM FROM ANONANG'S JUICE AND BROWNGUM.

**Name: RATHOD RAJ YOGESHBHAI & VASAVA RONAK
RAJENDRABHAI Std: 9**

Guide: KALAVADIYA UTTAM H.

School: DIVINE SCHOOL PANCHAYT CHOWK RAJKOT

ABSTRACT:

As we know that the gum sold in market is made by some particular chemical reactions. And those chemicals are very harmful and pollutant, to prevent pollution, so we should made gum from eco-friendly ingredient, No any harmful chemicals are used to make this gum. this gum is made up of the Anonang's berry, whose bark is used to make pickle, this gum is made by anonang's juice, brown gum and water We conclude that adhesiveness of eco friendly gum is same as gum made by chemical; this eco-friendly gum can be used to stick a paper and joining wooden part, no any harmful chemicals are used to make this gum.

Project Code:Chem-02 (Team) (Jr)

Online ID:1672

Title: ECO-FRIENDLY HAIR DYE FROM MANGO(*Mangifera indica*)SEEDS;GALI (*Indigofera tinctoria*)LEAVES AND HIRAKASI(FeSO_4)

Name: DAVE RAKSHA & PADMANI HITANSHI Std: 7th

Guide: MEERABEN VAISHNAV

School: shri k g dholakiya primary school

ABSTRACT:

Hair dye is become an important cosmetic item for human being in this days, worship and other purposes. Prolonged use of synthetic hair dye has shown symptoms of hair loss, graying of hair, edema, and erythematic and even skin cancer. In view of above scenario, a process technology has been developed to produce an alternative, safe, non-toxic, eco-friendly natural hair dye. The process is novel as natural ingredients like hirakashi, mango seeds bhangro leaves and Gali leaves are used as bulking materials and no salt of any heavy metals are used. The process provides an opportunity for the preparation of different shades of dyes like black, orange, dark brown. using different dyes and their blends. As per results of testing, the black herbal dyes is long durable, less fedness in the sunlight quite safe for skin application having no adverse effect on skin. And hair became more strength full The orange coloured herbal dye is quite suitable for fashion and other purposes. It provides an option to replace synthetic dyes.

Project Code:Chem-03 (Team)

Online ID:1674

Title: extracting oil from plastic waste

Name: prashil yashwastbhai rajdev & abhi vachhani Std: 9

Guide: charu goswami

School: rajkot

ABSTRACT:

To decrease environmental pollution it is important to recycle waste plastic and put them to good use. We have developed a novel and low cost process that converts waste plastic into Pyrolysis oil that has variety of applications (petrol, diesel, kerosene and industrial fuels). First we have taken an iron cylindrical vessel and connect it with a heater. We fill up the vessel with waste plastic. Then we supply electricity to the heater then the temperature will rise around 2500C to 2800C then plastic converts into liquid then gaseous form. These gases will pass through a copper pipe to a condenser. The condenser is filled with chilled water because of the chilled water the gas will convert into Pyrolysis oil. In this if we input 1000kg of plastic we will get 700litres of crude oil in addition get about 80kg of carbon black and hydrocarbon gas.

Project Code:Chem-04 (Team)

Online ID:1760

Title: NATURAL MOSQUITO REPELLENT FROM OCIMUM BASILICUM; CAMPHOR POWDER; WOODEN DUST AND ZIGET

Name: pansuriya prashant p. & borad sahil a. Std: 9

Guide: yogesh k. kachchi

School: k g dholakiya school; near balaji hall ;150ft ring

ABSTRACT:

Ocimum basilicum seed has been serving from years as a mosquito repellent in the field of ancient and modern medicine. Commercially available mosquito repellents are chemical based and disastrous to human health. An attempt has been made to prepare a 100% herbal product based on Ocimum basilicum seeds which is normally used in kitchen. It is cheap, effective and environment friendly. It is a first and preliminary work based on formulating and evaluating herbal mosquito repellent cakes using natural binders and wood dust. The efficacy of prepared citronella seed sticks were evaluated on three different parameters such as flammability, burning time and mosquito repellency test. Based on the results obtained from these parameters, the residual percentage of each combination of sticks was calculated and it suggested that Ocimum basilicum seed powder has the most effective repellence.

Project Code:CompSc-01

Online ID:1572

Title: At-Home EEG user interface (for real-time brain waves analysis)

Name: Rohan Hundia Std: 12

Guide: Dr. Ronak Shodhan

School: Ahmedabad International School

ABSTRACT:

EEG (Electroencephalography) is a test used in hospitals to measure brain waves. My project was to develop an At-Home EEG interface. At-Home EEG GUI: This EEG interface system is analysis tool software developed by me that can be used to get real time brain wave data by interfacing with an external bio amplifier. The GUI uses Lab streaming layer library and socket client interactions (TCP server) to stream in brain data and display them in form of EEG waves to the user. The basic functioning of the interface is described below as steps: 1. The interface connects wirelessly to a hardware setup (bio amplifier) by establishing a TCP server and using socket-client interactions 2. After connection is established, it streams in the brain data from the hardware (acquired from 20 electrode positions placed over user's scalp) and displays the EEG waves in the front-end to the user. 3. Conducts impedance checks to get information on quality (encoded by colour) of EEG data and displays a real time brain view with the 20 electrodes 4. It runs constant status calls after each frame of analysis to check for proper functioning and check for proper established connection with the hardware. 5. After the recording a raw EEG data file is automatically generated which can be then used by researchers or doctors for further analysis (.EDF format) The software is developed in Unity3D and C#. The purpose is to develop a healthcare brain analysis tool which could be used at home.

Project Code: CompSc-02

Online ID:1574

Title: Project RecycleRobo: Smart Landfill Waste Resource Management and Fire Prevention

Name: Jaidev Nikhil Shah Std: 12

Guide: Nikhil Shah

School: Udgam School For Children; Thaltej; Ahmedabad

ABSTRACT:

Project RecycleRobo aims to solve three major problems in landfills of India: 1) Health and Occupational Hazards faced by landfill workers Landfill workers have to face extremely dangerous and hazardous conditions inside the landfill [skin Diseases, Respiratory Diseases, Cancer] 2) Inefficient Collection of Recyclable Materials Landfills can be converted to assets for India by increased collection of recyclable materials from them, thus saving Natural Resources and Energy. Landfill Location Size TPD (Tonnes Per Day) Deonar Mumbai 326 Acres 9600 Ghazipur Yard Delhi 70 Acres 9000 Perungudi Chennai 228 Acres 9500 3) Spontaneous Landfill Fires Landfill fires lead to widespread air pollution and health hazards for workers and residents. CONCEPT RecycleRobos are track wheeled robots to collect the recyclable waste with a scooper mechanism, lift it and store it in the attached bin which is then sent for recycling. Every robot has a wireless module, enabling it to communicate via M2M technology and relay data with other robots. The landfill is divided into a (x,y,z) coordinate system and

this allows for the robots to maximize collection through collaboration. Deployed in a landfill, multiple RecycleRobo's could work 20+ hours a day, collecting almost four times the waste collected by a human worker. Sensors on my RecycleRobo prototype transmit real time gas concentrations to the mobile application I've developed for this project. This helps in landfill fire early detection and prevention. Furthermore, this data can be used to generate biogas from decomposing organic matter and help the WTE [Waste to Energy] Market in India.

Project Code:CompSc-03 (Team) (Jr)

Online ID:1648

Title: Electro Mechanical Robot

Name: Krunal Vinaybhai Patadia & Deep Chiragbhai Mehta Std: 8

Guide: Jaymin dhandha

School: K G Dholakiya School; 150 feet Ring Road; Rajkot

ABSTRACT:

We have prepared a design of a robot which we can use in one or the other ways. The main purpose of the robot would be cleaning an area automatically. Other side purposes would be protection for doors using burglar alarm, measuring temperature and distance, etc. In detail, the main purpose is to clean any area or a room using vacuum cleaner. All the dust is absorbed using vacuum cleaner. Further, it can clean the area more nicely using water and a mop. Burglar alarm, the second important function works on ultrasonic sensor and GSM modem. It sends us a message when a person opens the door of house. It can detect the opening of the door using ultrasonic sensor.

Project Code:Energy-01 (Team) (Jr)

Online ID:1677

Title: New Desing of Solar Dryer

Name: Khachar Radha & Kesur Surbhi Std: 8

Guide: Ms. Binal Godhasara

School: Shree G.K.Dholakiya School; University Road; Rajkot

ABSTRACT:

During one workshop we prepared different 3D structures from valve tube and match sticks such as cube, pyramid, and tetrahedron and diamond shaped (six pyramids fixed on six phases of cube). From these shapes we prepared a solar concentration unit by using mirrors as reflectors. We found pyramid shape very interesting since light can be easily penetrated through it and can be concentrated at the lower surface which is open. The unit is arranged with four pyramids placed on four sides of a square, with the bottom of square opened. The top of square is further installed with one more pyramid shaped structure. In this unit the pyramid sides facing sky are transparent and sides facing ground are mirrors. Before deploying the unit, it was tested using a laser light. When the laser light was focused from upper transparent sides of pyramid, it was observed that beam

reflected from the mirrors (of pyramid); hits another mirror (of opposite pyramid) but does not come out. This observation gave us an idea that sunlight entering the unit has got less chance to exit, hence giving a better solar concentration for a long period of time (8 A.M – 5 P.M) in one position. Now that our solar concentration unit is ready, we try to test it in real world application. A few wet samples of wheat, gram, beans, and grains are taken in same amount and placed for drying. We observed that within an hour (11 A.M – 12 P.M) the samples get almost dried.

Project Code:Energy-02 (Team)

Online ID:1686

Title: Water Saving Shower

Name: Surabhi Lalitbhai Pipaliya & Kairavi Rohitbhai Pipaliya Std: 9th

Guide: Charu Goswami

School: G.K.DHOLAKIYA SHALA SANKUL-Uni. Road

ABSTRACT:

Our Concept behind This development of new water saving shower head is to reduce the water consumed by the people showering every day, without compromising the quality of the bathing experience. We inspired by the nozzles in jet engines and agricultural equipment, delivers water in very fine droplets - cutting water consumption dramatically, while creating a comforting, enveloping warm cloud. It is a truly revolutionary idea that has the power to change the way people around the world take showers every day. Our innovative showerhead not only reduces the water consumed during a typical shower by minimum 50 percent, but it also delivers an improved personal experience that early users are describing as “transformative.” By mist nozzle on drop will divided by numbers of tiny droplets. And it’s possible thru Agricultural/Commercial Mist Nozzle. It’s just give direction of centrifugal down side cone circle with outlet of very little point 0.5 mm, This way same amount of water will cover more area by cone distribution of water by mist nozzle. (Fundamental of Small Particles Can Cover More Effective Surface Area) so, By Cone Distribution Contact surface area will increase with same single point water consumption, so one single nozzle will works as Numbers of general nozzle and water flow reduce by 50% of general showerhead flow rate. From This Mist Shower Head it can be 10 Liter per 10 Min Shower Bath and Save 10 Liter per bath. As this way numbers of peoples taking showers daily and daily.

Project Code:Energy-03 (Team) (Jr)

Online ID:1743

Title: PARABOLIC SOLAR COOKER ROTATING TOWARDS THE SUN

Name: SHYAM SAKHIYA & SADARIYA MEET Std: 7

Guide: AJAY SARIYA

School: G.K DHOLAKIYA PRIMARY SCHOOL-RAJKOT

ABSTRACT:

A parabolic solar cooker with automatic axes sun tracking system was designed, constructed, operated and tested to overcome the need for frequent tracking and standing in the sun, facing all concentrating solar cookers with manual tracking, and a mechanical system was used to control the motion of the solar cooker. The results of the continuous test – performed for five days from 10:00 h to 16:30 h in august 2016 – showed that the water temperature inside the cooker's tube reached 100 °C in normal sunny days, when the maximum registered ambient temperature was 30 °C. It was also noticed that the water temperature increases when the ambient temperature gets higher or when the solar intensity is abundant. This is in favor of utilizing this cooker in many developing countries, which are characterized by high solar insolation and high temperatures. Besides cooking, the proposed cooker could be utilized for warming food, drinks as well as to pasteurize water or milk.

Project Code:Energy-04 (Team)

Online ID:1753

Title: Smart Solar Concentration

Name: Bind Shivratn Akshayavr & Thakkar Nishant Amitbhai Std: 9

Guide: AshishBhai Dave

School: Pathak Public School-Metoda; Rajkot

ABSTRACT:

Smart Solar concentration For concentration of solar energy in the form of heat and electricity more than one unit is used separately. Due to separate unit such as solar cooker, heater and cell the concentrated solar energy in solar cooker wasted after cooking purpose and in solar cell also due to open space and also the men power wasted for cleaning the dust particles. To overcome above problems and take more benefit of solar energy we prepared an ideal structure modifying tetrahedral structure (Smart solar concentration) in such a way that the three transparent phases of model remained perpendicular to morning, noon and afternoon inclined rays consecutively. Due to perpendicular incidence of inclined sun rays on each phases consecutively from morning to evening (9-00am to 5-00pm) there is maximum transmission of sun rays in the unit which leads more and more concentration of solar energy inform of heat. Up to 9-00am to 12-00am there is sufficient temperature rise up to 80 degree for solar cooking because the reflected sun rays from black opaque phases do not transmit back from transparent glass phases due to change in wavelength (short wavelength). In this unit the perpendicular opaque phase is slanted from 90 degree to 120 degree. In this phase this solar panel is fitted so that it remain perpendicular to sun rays and due to transparent glass covering it remains free from dust so in the unit we also get solar electricity with solar cooking. Behind the opaque wooden phase behind solar penal there is insulated tank field with water which is connected to copper metal coils in the unit with plastic tube so that there is continues convection of hot and cold water and thus the heat energy stored more and more in water throughout whole

day from morning to evening. After solar cooking the heat energy concentrates used for solar drying and water heating.

Project Code:Energy-05 (Team)

Online ID:1869

Title: :---Electric energy for torch by our body temperature

Name: preeti bhati & anuradha bhati Std: 10

Guide: bajranglal soni

School: meera niketan s.s. school gym

ABSTRACT:

Introduction:-In our daily routine we use low electric energy appliances like mobile, laptop, Torch, I-pad and etc.. We always want to turn-on these equipments in every situation. So we regularly need to charge batteries of these equipments. If in emergency we can be able to charge these batteries by our body's heat than our work done by these equipments will never stop. Considering these facts we build this project. We have learned the effect of seeback in physics. We have used this theory in this project which can charge our batteries of mobile or LED lights. Theory:In this project electricity is generated by effect of seeback. Equipments:4Peltier, Conductive wire, belt, Mobile pin or data cable, LED, Clothes or hankie. Working Principle:Peltier is the main part of this project. Peltier is arranged with belt so that it can be tied on hands and no. of peltiers can be more than one. Output of this setup is connected to battery by wires. The series of this peltier is tied on hand. Our inner body temperature is near about 98.4 F but the outer temperature is higher and it is variable. In winter days we put hotter part of peltier on body and colder part is outer side. Due to temperature difference electricity will be generated. But in winter the sides are interchanged. By this can generate electricity by our body heat can charge LED and mobile phones

Project Code:Energy-06 (Team)

Online ID:1889

Title: Circular vertical axis wind mill design.

Name: pinki saini & puja saini Std: 9

Guide: bajranglalsoni

School: meera niketan s s school

ABSTRACT:

Windmills convert the wind into either mechanical or electrical energy. If the efficiency of a windmill can be increased, then the need for expensive, polluting power generators will be reduced. The tip speed ratio of a windmill blade is directly proportional to the energy output. If the shape of a blade can be altered to increase the tip speed ratio, windmill performance increases. If the blade's surface can be coated to increase the tip speed ratio, windmill performance also increases. This project examined different blade shapes to determine the optimum shape for blades rotating on vertical axes. Different blade shapes were also tested for blades rotated on a vertical axis. Finally, different surface treatments were tested to

determine if surface treatment could enhance blade performance. Other areas were identified for additional research. The shape of the blade has a great deal of influence on the performance of the windmill. The tip speed ratio increased dramatically as the shape of the blade was modified to become more aerodynamically efficient when the blade was rotated on a horizontal axis. Blade shapes appearing to produce more lift and less drag were more efficient. Some blades did not rotate at all. However, when the direction of the wind was changed to reflect the effects on blades oriented on a vertical axis, each shape rotated reasonably well. It would appear that the blade shapes producing more drag performed better on a vertical axis. Tables of test results and charts of relative blade shape performance follow. THEORY Generally different type of horizontal & vertical blades is available and working with variations. Horizontal wind mill blades are more frequently used with different number of blades. They designed as per the aerodynamics and these blades convert wind energy into rotating movement. Popular wind mills work on a high wind speed and height is also kept very high. So the initial cost is very high. Efficiency of these blades is very low & cost is high.

Project Code:Engg-01 (Team) Online ID:1594

Title: MECHANICAL DESIGNER INSTRUMENT TO MODIFY THE SHAPE OF ANY PICTURE AND DRAWING

Name: VALAMBHIYA RUSHIK CHETANBHAI & RAMAVAT VAIDIK MUKUNDBHAI Std: 9

Guide: KINJALBEN SABHAYYA

School: MATUSHREE L G DHOLAKIYA SCHOOLS

ABSTRACT:

Drawing Instruments are used to prepare neat and accurate Drawings. To a greater extent, the accuracy of the Drawings depends on the quality of instruments used to prepare them. This instrument can be used to increase the size of any drawing as well as it also use to modify its width and length. While using this instruments there is no requirements any special techniques so anybody can use it to prepare different size of any sketches.To find out an easy way to increase or expand the size of drawing, picture, diagrams and letters using mechanical designing instruments.For making design instrument follow the next mentioned process.First of all,Take one plane wooden plate and take two wooden scale X & Y of size 48 cm length than Take two wooden scale X' & Y' of size 40 cm length.Join ends of scale X & Y by screw such that it can move. Join X' & Y' scale by screw such that it can move.Now,Take perfect measurement on X & Y and cut the hole accordingly to make it slider scale.Join another ends of scale X' & Y' at hole on scale X & Y respectively such that it can move.Finally, Take various types of measurements on scale and draw different types of drawings which will result into bigger in size than actual figure.

Project Code:Engg-02 (Team) Online ID:1670

Title: A NOVEL WAY TO REDUCE E-WASTE; EFFICIENT USE OF ELECTRICITY

**Name: KHUNT MANALI KAUSHIKBHAI & VAGHASIYA VISHVA
AJAYBHAI Std: 9**

Guide: RAKSHIT KANJIYA

School: MATU SHREE LG DHOLAKIYA SCHOOL RAJKOT-4

ABSTRACT:

Nowadays problem of e-waste is increased. So we must have find out novel way to reduce e-waste. So in this project we have made a tube light by using wastage CFL bulb. First we took a defused CFL bulb and breakout glass tube. Then opened a cover of CFL holder. Then connected four wires with circuit of CFL. Then another and of wires connected with ends of tube light. we measured voltage usage, current, luminance and area distribution of our tubelight, CFL and normal tubelight of market. Thus we can reuse wastage CFL bulb holder to make a tube light. Hence we can reduce e-waste and we can Efficient use of light energy along with less amount of electrical energy consumption.

Project Code:Engg-03 (Team) (Jr) Online ID:1673

Title: SMART STICK FOR BLIND PERSON TO FOLLOW THE RIGHT WAY

**Name: DAVE RAKSHIT KETANBHAI & CHHATRALA DEV
RAJESHBHAI Std: 7**

Guide: AKASH KACHCHHI

School: G.K DHOLAKIYA PRIMARY SCHOOL-RAJKOT

ABSTRACT:

From the very beginning of human history, peoples are suffering from many disabilities. Among those, blindness is very common and unendurable. Science and technology always try to make human life easier. So the main purpose of this paper is based on abating the disabilities of blindness by constructing a sensor based automated hardware that can corroborate a blind to detect obstacles as well as pits in front of him/her instantly by vibration and buzzer. The hardware consists of Resister, IR sensor, P.C.B., 9 volt battery, I.C., transistor, buzzer, shouldering iron, ultra sonic sensor GH311, vibrator, flexible wire, plastic stick, actual stick, gum, tape.

Project Code:Engg-04 (Team) (Jr) Online ID:1676

Title: 6 IN 1 MULTIPURPOSE FARMING DEVICE

**Name: RUPARELIYA JAY BIPINBHAI & BADIYANI OM
HITESHBHAI Std: 7**

Guide: ASHISHBHAI TRIVEDI

School: G.K DHOLAKIYA PRIMARY SCHOOL-RAJKOT

ABSTRACT:

We have required so many instruments for farming such as spade, torch, sharpen digging tool and harrow. All type of instrument can be find out in one instrument by fitting various tools which is minimized all over cost of instrument and easy to transport one place to another place.

Project Code:Engg-05 (Team) (Jr) Online ID:1678

Title: A New Design of Walker it can be helpful of handicap person for steps climbing

Name: Lalpara Aastha & Gami Kruti Std: 8

Guide: Mrs. Apeksha Joshi Raval

School: Shree G.K.Dholakiya School; University Road;Rajkot

ABSTRACT:

A walker is often used by those who are recuperating from leg or back injuries. It is also commonly used by persons having problems with walking or with mild balance problems. Some people are born with a disabling condition (e.g., Down syndrome) or demonstrate a condition early in life (e.g., autism, bipolar disorder), whereas others acquire disabilities through injury (e.g., spinal cord injury) or a chronic condition (e.g., limb loss because of diabetes), and still others develop a disability in later stages of life (e.g., dementia, age-related mobility disability). The health needs of people with disabilities vary with the type of limitation (e.g., mobility or cognitive) and by the condition underlying the disability (e.g., spina bifida, Down syndrome). For some, such as people who acquire disability through injury, the nature of their disability can be differentiated more readily from their health status. Now a day's walker are used to be sell in the market ,but with that handicap person do not climb the steps. But the walker that we had made handicap person used to walk in each & every situation. That is why we have made this walker. It can be used anywhere like even or uneven road, big or small steps. This walker can also be made from iron or woods. The person walks with the frame surrounding their front and sides and their hands provide additional support by holding on to the top of the sides of the frame. Traditionally, a walker is picked up and placed a short distance ahead of the user.

Project Code:Engg-06 (Team) Online ID:1682

Title: A unique design of pot

Name: BHALODIA KRINA JENTIBHAI & BHALALA PRAGTI

KISHORBHAI Std: 9

Guide: Dicosta K Ghetia

School: shree g k dholakiya school

ABSTRACT:

Water, carbon dioxide and sunlight are primary things for photosynthesis. Rate of

photosynthesis is directly effect on growth of plant. So, proper proportion of it is necessary. Some time if this thing gets higher then, it may effect on growth of plant. Our project is based on role of water in plant growth. Less water supply gives symptoms like decreased growth, small off colored leaves, decline from top down, and early fall color etc. and high water supply gives symptoms like water logged soils. Our project is based on reduces water logged soils problem arise during high water supply. Because it results in root activity slows or shuts down and plant show symptoms of drought. It also shows symptoms like decline in root growth slows plant growth process, leaves may wilt from lack of water uptake, root tots are common in some species, and lower interior leaves may yellow etc. to solve above problem we design pot in such a way that plant grow with moisture. We did installation of buried clay pot into another large pot. In this, we maintain space between porous container and outer large pot. And supply water to that space. So that, porous container absorb water and deliver to plant root. It is easy to set up as garden center and super efficient watering system.

Project Code:Engg-07 (Team) Online ID:1683

Title: Smart Change over switch that prefers power supply from different sources of electricity as per requirement

Name: Khush.s.kanjia & Meet.c.limbasiya Std: 9

Guide: Charu goswami

School: Shree Gk dholakiya school;rajkot.

ABSTRACT:

This paper reviewed the methods of implementing change over system and proposed a better and cost effective approach to realizing the same. Some of the approaches which have been employed to implement change over system include manual change over switch box, automatic change over system with electromechanical relays and changeover system with automatic transfer switch. We have made an circuit that takes electricity from different sources.as per availability.means if solar power Is not available than it takes powerfrom wind Mill is wind power is also not than it takes power from battery and it battery is dead than at last it takes power from GEB.it checks availability of electricity and gives electricity to home. Each of the methods has some drawbacks that make it undesirable. Among these drawbacks are time wastage,possibility of fire outbreak, generation of noise, frequent failures, product damage, high component count to mention but a few. These contribute to the high cost of these methods. The approach proposed in this paper makes use of solid state relay(SSR) which eliminates totally the noise, arching, wear and tear associated with electromechanical relays.in this we have used relays,leds,diods,ic,regulator ic transistor.

Project Code:Engg-08 (Jr)

Online ID:1742

Title: AUTOMATIC STREET LIGHT FOR EFFICIENT USE OF ELECTRICITY

Name: Gokani Kevin gajendrabhai Std: 8

Guide: sudani chiragbhai

School: divine school ; panchayat nagar ; rajkot

ABSTRACT:

AUTOMATIC STREET LIGHT FOR EFFICIENT USE OF ELECTRICITY This paper illustrates the street light glowing system on vehicle detecting movement. Controlling of street light is of utmost importance in developing country like India to reduce the power consumption. The project based on monitoring of street light in such a way that it saves maximum electricity and does not compromise the safety and security, that give bright lighting when people or vehicle pass through street light The system is capable of controlling the light output according to the ambient light intensity and switching it on and off using a motion sensor. Material used in street light is ½ W LEDs, transistors BC547, timer IC 555, LDR, PIR motion sensor, assorted passive components (resistors, capacitors, diodes etc) , 12V 1A dc power supply.

Project Code:Engg-09 (Team) Online ID:1762

Title: DESIGN AND MANUFACTURING OF A STAIR CLIMBING TROLLEY

Name: lunagriya raj samirbhai & sidapara keval batukbhai Std: 9

Guide: yogesh k. kachchi

School: k g dholakiya school;near balaji hall ;150ft ring

ABSTRACT:

This article deals with the designing and manufacturing of a luggage trolley, which can climb stair or move along very rough surface. The technical issues in designing of this trolley are the stability and speed of the trolley while climbing stairs. However, the steepness of the stairs is also the important concern of this study. The uses of this trolley are in the frequent lift of goods such as books for library, medicines for hospital, regular mails for any institutes, or transportation any luggage at railway station or bus stop and give freedom to the retarded person or paralyzed patients to move anywhere over flat surface as well as stairs. The trolley has two set of wheels arrangement to support its weight when it moves over the flat terrain. Each set consists of three sub-wheels attached. Using of this trolley, the labour cost can be reduced as well as huge amount of loads can be transferred uniformly with less efforts

Project Code:Engg-10 (Team) Online ID:1773

Title: A Novel instrument to cut wastage plastic bottle in different size.

Name: Jariya Kuldeep S. & Pansuriya Kushal S. Std: 9

Guide: Manoj Ramani

School: Late Shree S.G. Dholakiya School

ABSTRACT:

All of us throw plastic bottle as a waste but in this project we try to find a way to use this plastic bottle to make string. First we cut that bottle from bottom and try to cut it with knife but it was very hard to cut it. We fix one small blade on log of wood and cut plastic bottle in string.

Project Code:Engg-11 (Team) Online ID:1774

Title: Mini Adjustable Tripod stand for Camera Holder Cell phone

Name: Bhatt Jay N. & Nathavani Jeet Y. Std: 9

Guide: Manoj Ramani

School: Late Shree S.G. Dholakiya School

ABSTRACT:

Our project focuses on camera stand which can work for mobile and as well professional camera also. We make a camera stand which can rotate in horizontal direction in 360°. For making this stand we use one plywood sheet of 1'ft x 1' ft., fit 4 adjustable wheels below of this plywood sheet. Fix one log of wood at end of this horizontal log of wood, this second log of wood work as arm which is rotate and at end of this log of wood put stand which hold mobile or camera. In this stand we don't have to hold mobile or camera in our hand, we can also rotate this stand vertical axis.

Project Code:Engg-12 (Team) Online ID:1778

Title: The conservation of waste energy from momentum of running heavy vehicles during transportation.

Name: Dabhi Hardik Bharatsinh & Parasana Parth Kishorbhai Std: 9

Guide: Limbasiya Chandreshkumar Tulshibhai

School: Pathak school - 150Ft Road; Rajkot

ABSTRACT:

The heavy vehicles during transportation when pass over the speed breaker driver has to break it and vehicles have to bear reaction force effect which leads to increase in maintenance. The speed breaker on highway and near city at crossing is need for safety of vehicles and human life from accident. Due to this reason every running vehicles have to faces above problems such as loss of fuel and maintenance. To overcome above problems and conserve maximum energy from momentum of running vehicles free of cost we have develop this simple mechanism as shown in diagram and photographs using mechanical tools such as rack, springs, rod, sprang clutch, iron plate, fly wheels, shaft and belt drives etc. The mechanism is designed in a unique way smartly so that with momentum of every running vehicles passing on speed breaker the upper assembly of mechanism set on speed breaker with springs press downward so that the rack – piston – sprang clutch, which will move the shaft join to flywheel with gears and

generator. Thus with one vehicle parts from speed brake move the assembly two time and from this pressing we get more and more rotation of fly wheel with shaft – clutch and finally the generator connected to flywheel with belt gives more and more movement lead to generate a certain amount of electricity which is completely free of cost and Eco-friendly green energy.

Project Code:Engg-13 (Team) (Jr)

Online ID:1780

Title: Innovative Mobile charger stand

Name: Raiyani Niyati J. & Limbasiya Pooja J. Std: 7

Guide: Nareshbhai Makwana

School: Late shree S.G. Dholakiya Primary School

ABSTRACT:

If we are traveling in train, when we put our phone in charging, we have to hold phone in our hand. At home also we have to find place where we can put our phone safely while charging. As we facing this problem we try to solve this issue by making stand which hold mobile phone near to charging. After making this stand we fill that if we integrate charging circuit in stand it will be easy to handle.

Project Code:Engg-14 (Team)

Online ID:1863

Title: USER-FRIENDLY SLIDING AND MULTIPLE WRITING BOARD FOR SCHOOLS

Name: Pipaliya Janak & Chatrala Jenil Std: 10th

Guide: Kinjalben sabhaya

School: Matu sri L.G. dholakiya school

ABSTRACT:

Materials used:- Plywood, Laminate(Glossy whit),Fiber cotton paper, Strings and screw, Pipe Construction and brief description:-oWe made rolling sliding writing board with regzine and fiber cotton paper. Approx 33.5 × 48 size in Inch plywoodThe holes for attaching the strings by screw in the plywood34 Inch and 36.5 Inch P.V.C pipe and strings for rolling board26 × 37 Inch Regzin black board attached with pipeExperiment by marker and chalk S.r.No.Type of slideResult of writingResult of erase1.Black regzineyes yes2.E class- paperyes Nil3.Fiber paperyes yes4.Laminateyes yesThe Marker Board which is The rolling marker board available in market which we make 1. The glass is used. 1. We use laminate and fiber cotton paper. 2. It is not flexible. 2. Fiber cotton paper is Flexible. It can bend.3. Some ink is left on the board. 3. Ink is not left on the board. 4. It is expensive. 4. Its expense is less. The sliding board which is The sliding board available in market which we make1. It takes more space. 1. It takes less space. 2. It is not flexible. 2. It is flexible. 3. It is expensive. 3. Its expense is less. Simple board Sliding board 1. Can't keep long writing 1. We can keep long writing details on board. details on board.2. Can't give long description 2. We can give

long description on same on same writing details. writing details. 3. Have to clean board frequently. 3. Don't need to clean board frequently. 4. Can't keep writing details on 4. We can keep drawing writing details on board for long time. board for long time. Sliding board Available smart board 1. Less expensive. 1. More expensive. 2. No need of electricity. 2. Need electricity. 3. Less chance for creating 3. More chance for creating any problems. Problems. 4. Don't need to do any preparation 4. Need to prepare or set fonts and slides in for any fonts or writing. advance. 5. Writing details is there so 5. Writing is stored already so you can add more writing in it you have to find titles and in between two lechers. Files to add more in it.

No. Part's name	Cost	1. Strings	Rs.250	2. Plywood	Rs.225	3.
P.V.C. Pipe	Rs.100	4. Fiber cotton paper(1m)	Rs.150	5. Color(200ml)		
Rs.75 Total		Rs.800				

Project Code:Engg-15 (Team) Online ID:1877

Title: Modified Bike

Name: Ajitabh Tripathi & Akhandjyoti Gupta Std: 11

Guide: Chetan sankla

School: Sant Shri Asharamji Gurukul ; motera

ABSTRACT:

we have made a project to decrease accidents. we have cannected a yellow light with the clutch of bike ,it is placed on the red light of the brake .first we will press the clutch so the yellow light will lighted, after pressing the clutch we will press the brake the red light will lighted . when the yellow light will lighted the backwards drivers will be alerted that the vehicle's speed will decrease so they could controlled their vehicle and like this accidents can be decreased

Project Code:Env-01 (Jr) Online ID:1590

Title: NOVEL PROCESS TO CREATE ECO-FRIENDLY COMPOSITE MATERIAL BY USING GROUNDNUT HUSK; GUAR GUM; WASTE PALM LEAF AND TEAK LEAF

Name: RATHOD ADITYA BHANUBHAI Std: 8

Guide: KINJALBEN SABHAYYA

School: MATUSHREE L G DHOLAKIYA SCHOOLS

ABSTRACT:

We have developed a novel process that uses waste teak leaf and palm leaf, groundnut husk and natural binder guar gum to create a composite material that has variety of applications. First we take ground nut husk sundry it. Then grind the groundnut husk. Add the naturally available plant based guar gum powder with required amount of water. The guar gum acts as a natural binder. The most optimal proportion we found was 70% of sugarcane fiber and 30% of guar gum. Once done, smear the paste into the flattened palm leaf or teak leaf. Than dry it for three

hours in sunlight now process of pressing is being done of this material in the mold machine at 70kgs/cm², make different shape, like plate shaped. This way this product is ready to use. This process does not require heating thereby making it cost effective. The composite material created can be used for variety of application such as disposable plates, glasses, bowls etc. We did a detailed comparison of the physical properties, biodegradability, and user experience of plates made from groundnut husk & palm leaf and teak leaf and standard commercially available paper plates. From the measurements of tensile strength, flexibility, water and oil absorption, degradation time in soil etc. we find that our composite plates provide an eco-friendly and cost-effective alternative to the standard plates used.

Project Code:Env-02 (Jr)

Online ID:1598

Title: Bio-plastic from yam starch

Name: Arya Yogeshbhai Kargathara Std: 9

Guide: Jaimin Dhandha

School: Shree K.G Dholakiya School rajkot

ABSTRACT:

The demand of traditional plastics is increasing day by day. In environment it cause pollution. To overcome this problem, I have decided to make bio-plastic from natural materials like Yam starch, vinegar, glycerine. Take 5 gram Yam starch, 10ml vinegar, 10ml glycerine and 25ml water and then mix it at low temperature. After it turns into thick and sticky mixture. Pour in the mould and leave it for 2 to 3 days for drying. Now your bio-plastic is ready. It is flexible, transparent and strong. So this plastic can be used instead of traditional plastic.

Project Code:Env-03 (Team) (Jr)

Online ID:1649

Title: A novel process to create composite sheet by using groundnut husk and coconut tree's skin

Name: Sojitra Mishra & Topiya Janvi Std: 8

Guide: Ms. Binal Godhasara

School: Shree G.K.Dholakiya School; University Road;Rajkot

ABSTRACT:

them to good use. We have developed a novel uses of coconut skin, groundnut husk and fevicol to create a composite sheet that has variety of applications. First we make simple sheet from coconut skin but its strength is very low. Then we used groundnut husk and fevicol. We check which proportions is best binding capacity we used groundnut husk and fevicol in different proportions like 50-50, 60-40, 70-30, 80-20, 90-10. Then we spared coconut skin. The base composite sheet created was tested for water absorption, oil absorption, Moisture. It is light-weight. Our optimization experiments showed that 50% Groundnut husk and 50% fevicol forms the best combination for creating the base sheet. Collect the groundnut husk

and dry in sun it for one day. Take the fevicol with drained husk and crush in mixture grinder and required amount of water and make a sheet and speared on coconut skin. The overall process done easily and does not require any heating. Thus, our sheet is ready to use. It can be used in various applications. The composite sheet created can be used for variety of application such as boxes, file, furniture etc. We also made germination pot using our material. Once the seeds germinate in our pot, it can be directly put in the ground-pit without the need to transfer the germinated mud block into the soil separately. Unlike plastic germination bags, our germination pot is natural & bio-degradable. We did a detailed comparison of the physical properties, biodegradability, and user experience of sheet made from coconut skin and Groundnut husk composite and standard commercially available sheet. From the measurements of water and oil absorption, degradation time in soil etc. we find that our composite plates provide an eco-friendly and cost-effective alternative to the standard sheet used.

Project Code:Env-04 (Jr)

Online ID:1656

Title: Low Cost Life Saving Jacket

Name: Mehul Sehgal Std: 8

Guide: Veena Mishra

School: Amity International School; Vasundhara; Sector-1

ABSTRACT:

Life saving jackets are indeed a very useful invention. But, they are really costly so not everyone can afford a good quality life saving jacket for themselves when they swim. But don't you worry because every problem in this world comes with a solution and my life saving jacket is the solution to this problem. My life saving jacket is very cheap to make. It costs less than Rs.200. It is made out of waste plastic bottles and waterproof materials and can support a weight up to 40kg. It is very effective for kids. It requires a creative mind to think of such an innovative idea and this jacket proves that creativity is not yet extinct.

Project Code:Env-05 (Team) (Jr)

Online ID:1680

Title: Uses of silk cotton

Name: ANADAKAT EKTA SANJAYBHAI & ANADAKAT VRUNDA BHAVESHBHAI Std: 6

Guide: VAISHNAV MEERA SATISHBHAI

School: KG Dholakiya School; B/H Balaji hall; Rajkot

ABSTRACT:

In ordinary cotton have heavy in weight so it is hard to wear and carry from one place to another place and not easy wash so we extract silk cotton from silk cotton tree which is lighter in weight and easy to carry and wash, this cotton cheaper than other type cotton and material used is Dry seed pods of silk cotton tree, needle and a thread, piece of cloth. First of take the dry seed pods of silk

cotton from the tree. If we do not take off it in the given period of time, it may lead to a tear and it should be carry away in the flow of air while removing the cotton, there is a possibility of seeds coming out which are black in color. We can remove them and use the cotton in various ways. Pillows, Mattresses, shall which are very soft, warm and light in weight. This cotton is used in factory to manufacturing various threads

Project Code:Env-06 (Team) Online ID:1791

Title: Comparative study of natural fertilizer (made from watermelon rip & banana rip) & chemical fertilizer

Name: Rajpara Harshil C. & Rajpara Dhyey A. Std: 8

Guide: Vipulbhai Parmar

School: Late Shree S.G. Dholakiya School

ABSTRACT:

First we surveyed about the recruitment of soil for crops. We also have find out the content of watermelon rip and banana peels. water melon rip contain carbohydrate, protein, Potassium etc. from literature we also find out that banana peels contain Nitrogen, Carbohydrate, Phosphorous, Protein etc. this contain necessary things which are essential for growth of crop. So, we made natural fertilizer using watermelon rips and banana peels. First we have taken only watermelon rips and banana peels. Where we dried both rips in presence of sunlight at 300_320c for 6 days. And we made pulp of banana peels and mix these two things on different proportion like 1:9, 2:8, 3:7 etc. then we compare it with NPK& neutral soil.

Project Code:Env-07 (Team) (Jr) Online ID:1809

Title: Effect of neem seed on growth of plant

Name: Padhiyar Dhruvil B. & Radaliya Meet B. Std: 7

Guide: Manoj Ramani

School: Late shree S.G. Dholakiya Primary School

ABSTRACT:

“We use Chemical Fertilizer for getting fast Production of plants but it has some side-effect for Soil, water and human health. If we use Natural Product as Fertilizer so side-effect can be remove.”

Project Code:Env-08 (Team) Online ID:1886

Title: water car running on fuel cell by water

Name: navin choudhary & bhawesh agarwal Std: 10

Guide: bajranglal soni

School: dugar school gym

ABSTRACT:

One of the burning problems of the world is depletion of

conventional energy sources and their use has created obstacles to such an alternative in the form of non-conventional energy sources. In this regard, fuel cell is a good and sensitive option for producing continuous energy.

Keeping this in mind, I have made fuel cell from hard water found in the well of Rajasthan. This was made by using resources found in Rajasthan and according to economical condition an inexpensive and easily available electrolyte between the two electrodes. There fore, the fuel cell is made inexpensive and as a result of chemical reaction happening in cell for producing electricity, clean water and heat are produced. Thus, we can get rid of some problems. Not in Rajasthan even in front of the whole world energy problem is growing up as a serious problem. CO₂ National energy storage are to ending & by using these sources also a danger of environmental pollution. But to fulfill the needs of daily routine work discovery of options is also very necessary.

Fuel cell is a special example of such options. Fuel cell can generate the electrical energy by chemical reactions. These are also useful in man-made insets even these are usable in many institutions of the world. But the negative aspect of fuel cell is that it requires O₂ & H₂ from outside and high energy is generated by internal chemical reactions so we can't say that fuel cells are environmental friendly & suitable economically if the cost of O₂ & H₂ is negligible & the rate of heat generation is very less then fuel cells can be very useful for our houses, schools, shops & other institutes. By keeping this point in light the development of this model have been done in this cell we are getting O₂ by water plants H₂ by waste material we are using the salty water [which is found in mostly places of Rajasthan as chemical reduction [solution] it consists of two advantages which are extra from electricity generation:-

Project Code:Math-01 (Team) Online ID:1772

Title: MULTI PURPOSE MATHEMATICAL MODEL

Name: Dholakiya Harsh A. & Sarelia Shubham S. Std: 9

Guide: Riddhi Akbari

School: Late Shree S.G. Dholakiya School

ABSTRACT:

Some time for teacher it is difficult to teach Quadrilateral Theorem in classroom. Here, we make model for understand theorem. also, we can find undefined terms in sums of quadrilateral. First of all draw circle on card sheet, cut it, fix four point on circumference of circle, fixed one point, then take 4 iron rod which has equal length and 2 strips which has length equal radius of circle. All iron rod connected in such way to form quadrilateral at corner of circumference of circle and connect strip with moving and fix point passing from center of circle. Fixed the circle master at two corner of quadrilateral.

Project Code:Physics-01 (Team)

Online ID:1704

Title: Aloe Vera Ice pack

Name: Ishan Amitbhai Tank & Bhavya Tejasbhai Parekh Std: 9

Guide: Charu Goswami

School: Dholakiya school;university road;rajkot

ABSTRACT:

We know that simple ice pack melts very faster so we had discovered Aloe Vera ice pack. It stays longer than simple ice pack so it can help people. Till now we had done many experiments and at last we got this ALOE VERA ICE PACK. For this we have taken Aloe Vera leaf and then took out all gel from it then we have crushed it and then filled it in an air tight plastic bag then we have kept in freezer for 8-9 hours and after it is ready to use.

Project Code:Tech-01 (Team)

Online ID:1662

Title: Multipurpose; Portable and Foldable table.

Name: UNDHAD KHUSHI SHAILESHBHAI & SORATHIYA

PRARTHNA KESHUBHAI Std: 9

Guide: MADHVI LADOLA

**School: SHREE G. K. DHOLAKIYA HIGH SCHOOL; UNI
ROAD;RAJKOT**

ABSTRACT:

•Space is the primary constraint in most houses of urban areas these days. •A number of devices for different purpose not only add to the procurement cost but also occupy space. •We have developed a multipurpose table which can be used in a number of ways like table, homework table, dinner table, supporter, slipping bed, lap-top stand, book reader etc..... •This table can foldable and portable so wherever we go we can carry this table with us. •We can make table or chair. •We can make lap-top stand. Etc..... •One or more than people can use this table. •You can even attach rolling wheel on it and carry with both along wherever we go.

Project Code:Tech-02

Online ID:1719

Title: AvishkarConnect: A mobile platform to support grassroots innovators

Name: Jaidev Nikhil Shah Std: 12

Guide: Nikhil Shah

School: Udgam School For Children

ABSTRACT:

Hello, I'm Jaidev Shah, the developer of the mobile application AvishkarConnect. AvishkarConnect is a mobile platform to share and promote poor, grassroots innovators and their inventions across Gujarat. The application, launched this April, is available on the Google Play Store. Using the app, you can take pictures/videos of your invention or idea, label and edit, and share on a host

of social networking sites. The AvishkarConnect App is linked with Google Maps on your phone, so each photo you share is tagged with the physical location of where you have taken it. On the App, there is also a section called the Idea Bank, where it showcases selected inventions shared by members and innovators. Through this application, a potentially successful grassroots innovation can gain recognition and support along with the right direction by members in taking the idea forward. To implement these functionalities, I used the following features in the app: 1) Link with Google Maps for real time location tagging 2) Linked with Facebook, Twitter, Whatsapp and Google Drive for sharing innovations 3) (X,Y) plotting Canvas to edit and label pics of inventions 4) Web Tiny DB Database to retrieve username-password pairs for member logins 5) App linked to Phone Gallery so that both live real time photo upload as well as stored pic upload is possible. AvishkarConnect on the Google Play Store: https://play.google.com/store/apps/details?id=appinventor.ai_shahjaidev99.avishkar

Project Code: Tech-03 (Team) (Jr)

Online ID:1746

Title: A LOW COST PORTABLE VACUUM CLEANER WITH A VERY GOOD EFFICIENCY

Name: DASANI RIYA RAJESHBHAI & KOTAK NENCY JITENBHAI

Std: 7TH STD

Guide: MAHESHWARI AMITBHAI SACHAKIYA

School: GK DHOLAKIYA HIGH SCHOOL RAJKOT

ABSTRACT:

Take a plastic water jug and cut the lid from the middle, then take a wooden cardboard and cut the shape of the jug and cut it in the size of motor in the middle. fit the motor in the middle of the cardboard and then fit the cardboard in the water jug. Take the metal sheet and cut it in the size of jug then make a hole in the middle and draw a line in the shape of a fan and cut that lines then bend it up from the right side like a table fan blades. Join it with the ac motor. now take a plastic bottle and cut it from the top then take a plastic pipe and join it with the neck of the bottle. Take a plastic jar and cut from the middle and also its lid. now make the holes in the bottom of the water jug. make the support of the water jug with the cardboard. Stick the lid of plastic bottle with the end of the plastic pipe. then the vacuum cleaner is ready to use.