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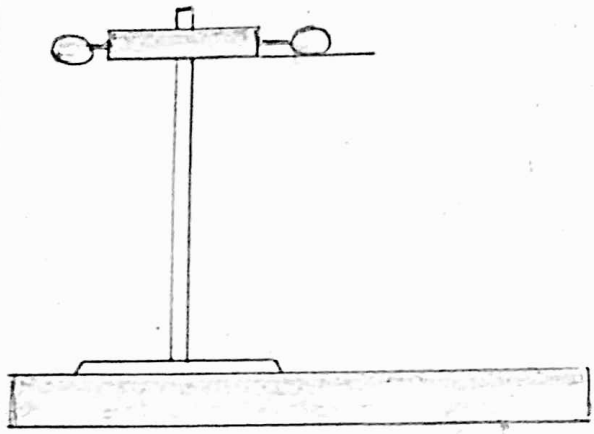
Activity-01

Different steps involved for demonstration of an experiment

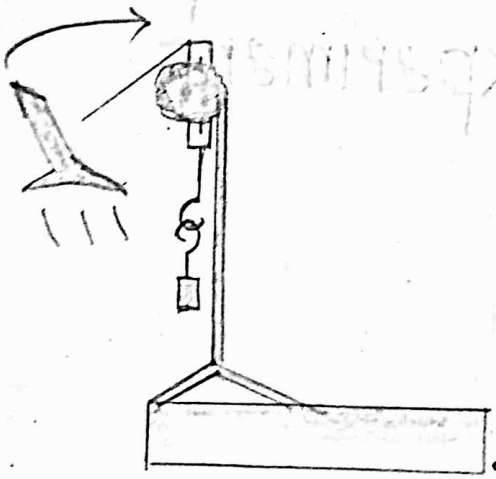
Demonstration of an Exeperiment

1. Vertical Acceleration



Two metal spheres are simultaneously released by a spring-loaded device. one of the spheres drops vertically, the other is projected with horizontal speed. one can hear both the flour at the same time.

② The Satellite



A toy rocket is attached to a nylon line, which is threaded through a fine polished glass tube. The glass tube is mounted to the top of a ring stand. A hook is attached to the other end of the line for hanging various weights. when the rocket is tossed with tangential velocity, the resulting centripetal force acts to balancing the weight. The rocket will "orbit" many many times before coming to rest on the "Earth"

Questions to explore include:

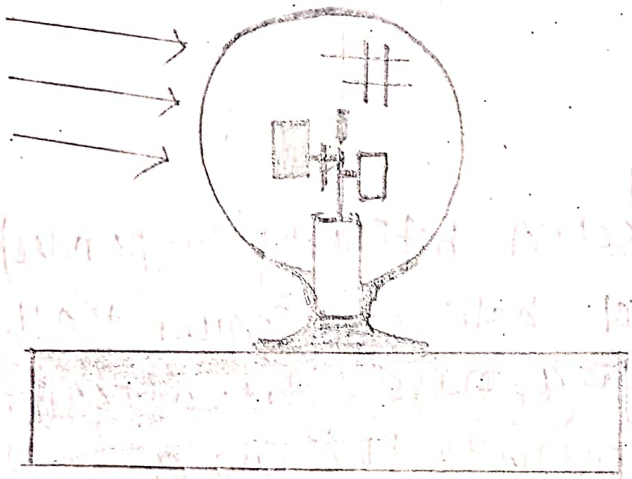
- what force keeps the hanging weight from immediately dropping to the ground?
- where does the energy come from that will ~~hanging~~ keeps the rocket in orbit.?

• How will hanging more weight to the hook affect the motion of the rocket.?

③ Mechanical to Heat Energy

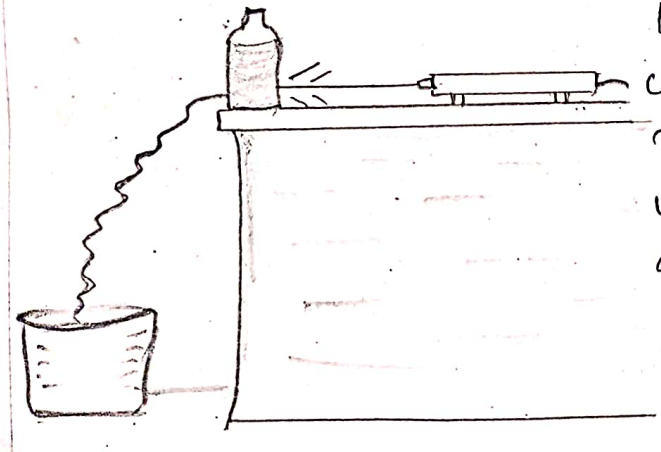
Two 1-pound, 2-inch drameter chrome steel spheres are smashed together with a piece of paper in between. After the collision, a charred hole that smells like smoke remains. In the paper.

④ Radiometer



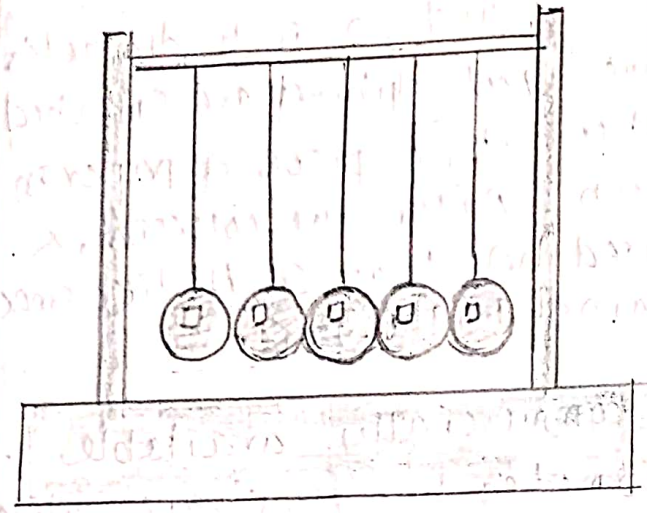
The commercially available radiometer has four vanes, white on one side and black on the other. The vanes are mounted in a glass bulb. As light strikes it from the side the absorbed photons heat the black side which heats the surrounding air molecules which then bounce off the vane imparting momentum.

⑤ Total Internal Reflection



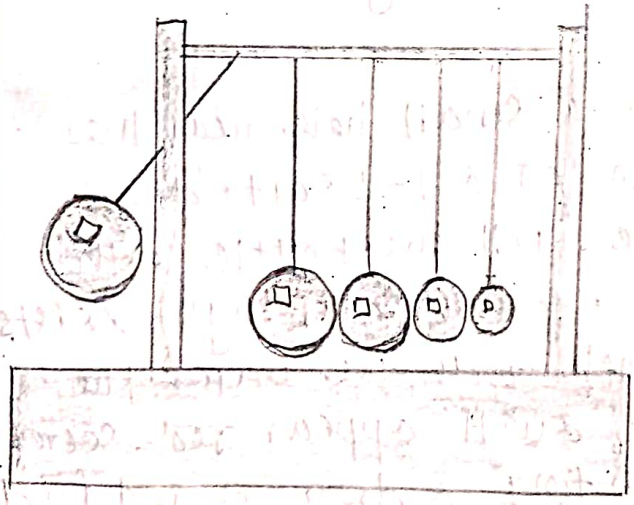
Punch a small hole near the bottom of a 1-L soft drink bottle. Fill the bottle with water. As the laser light exits the hole with the water the water will appear red. Secretly depositing a drop of red food coloring in the pail can be humerous.

(6) Newton's Cradle I



The set of bifilary suspended steel balls produce highly elastic collisions. Various combinations of balls can be dropped to illustrate conservation of momentum and energy.

(7) Newton's Cradle II



A set of bifilarly suspended steel balls, of sequentially varying mass, dramatically demonstrate the law of conservation of momentum and energy.

Activity-02

Improvised apparatus

Activity-2: Sedimentation and decantation

Take a mixture of soil and water in a glass tumbler and keep it undisturbed for sometime. what do you observe ?

You will find that the sand and the mud practice in the soil settle down at the bottom of the glass tumbler (Fig 6(a) These are called sediments. This process of separation of mud and sand is called sedimentation.

After sedimentation, the tumbler is gently lifted. the tip of the tumbler is inclined on the edge of another tumbler without disturbing the sediment

You can walk on waters of dead sea it and Israel and the west Bank to the west.

(b). The water gets separated from the sediment (mud). This process is called decantation.

fig. 6(a)

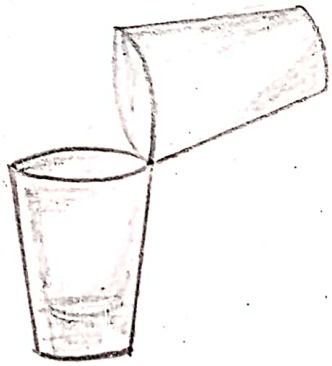


fig. 6(b)

- why did mud particle settle at the bottom of the tumbler. ?

Laxmi says that sedimentation and decantation are used at home while cleaning rice and pulses for cooking. describe the sediments in this process.

- Think of other examples where we use this method of separation and list them.

Sieving and filtration :

- How will you separate the tea-leaves from tea?

Tea-leaves are separated from tea using a strainer. Which property helped in separation of tea-leaves from tea?

You must have been seen flour being seived in the kitchen (fig.7). The flour particles are very fine and pass through the holes of a sieve, but the husk particles being large are left on the sieve.

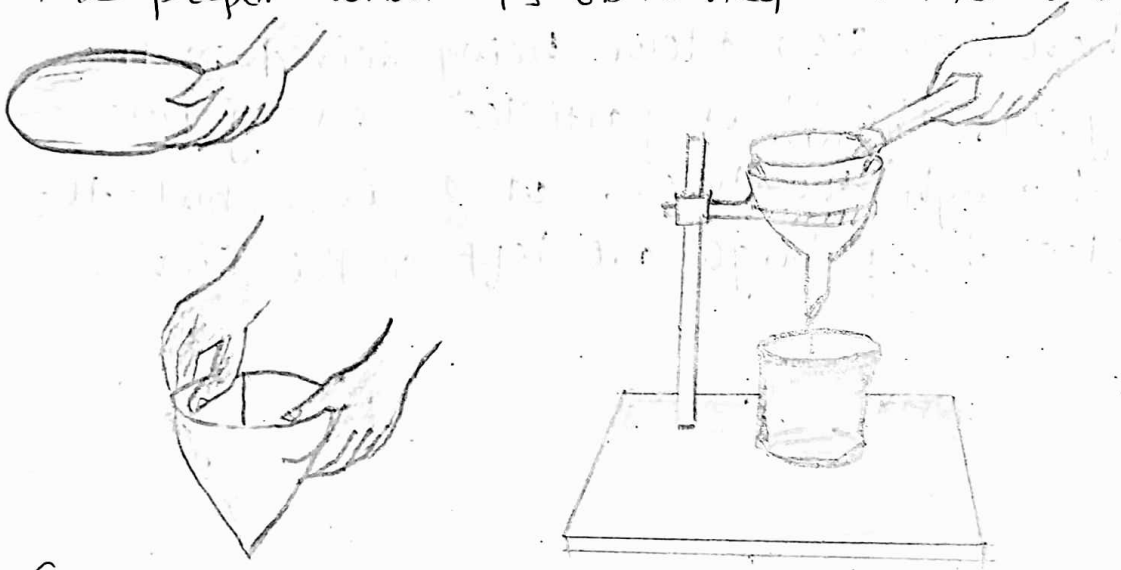
we use sieves to separate tea-leaves from tea and sand from gravel. what are the differences between the sieves used in the two instances?

Do you know?

Farmers separate grains which are bigger in size

from the smaller ones by sieving. The bigger grains are then used as seeds or sold at higher price.
can you separate mud from muddy water using a sieve? How small should the pores of the sieve be to do this? use a cloth a sieve and try to do this.

- Is the water clear after sieving?
- Gowthami filtered mud water with a filter paper: can you do it?
- After using the filter paper to filter water what do you find? what do you see left behind on the paper what is obtained in the beaker?



filter paper

filter paper is a sieve made of paper which has very fine holes. we can filter very small particles using this type of sieve.

Activity-2: Why can't we filter salt from salt water.

Take water in a beaker. Dissolve some salt in it. filter this mixture with a filter paper. were you

able to separate the salt from the salt water?

- why could you not filter the salt from salt water?

The pores in a filter paper are so minute that we cannot see them with naked eyes. Think, how small should the particles of salt dissolved in water be if they are pass through filter paper!

Activity-3: Crystallization

Heat some salt water in a beaker, over a flame. Stir the solution with a glass rod (fig. a) continue heating till all the water in the beaker has evaporated. what is left behind in the dish? You will find salt crystals and powder in the dish.

After some time, water vapour goes into the second conical flask through the glass tube. The water vapour will slowly turn to water. The water in the second conical flask is called distilled water. It is free from impurities.

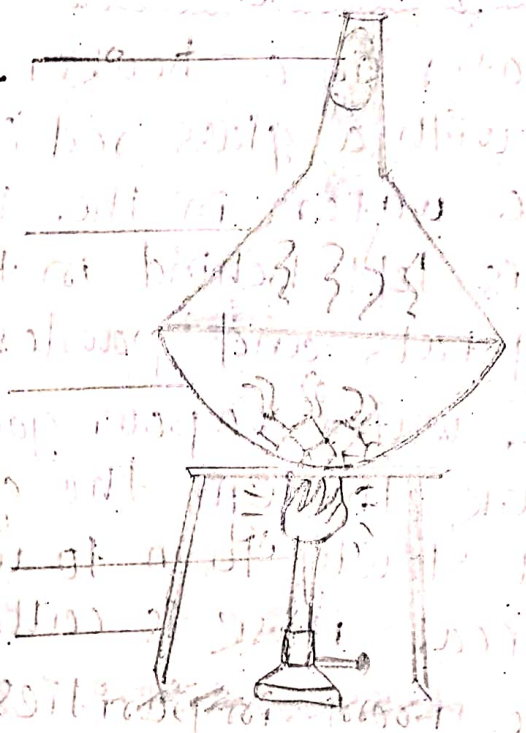
Sublimation

In order to separate the components of a mixture we make the use of their difference in color, shape, size, weight, solubility

- can we use these features for separating mixtures of powdered salt and camphor?
- what other properties can we use?

Activity- Sublimation of camphor

Take a mixture of camphor and powdered salt in a china dish and cover it with a funnel. close the tube of the funnel with cotton. Place the dish on a stand and heat it with a burner.



Activity-3

Shilparamam crafts village

Shilparamam

Shilparamam

General Information

Type - Crafts village

Architectural - Ethnic
style

Location - Madhapur, Hyderabad, Telegana, India

completed - 1998

Opened - 21 June 1998

Shilparamam is an arts and crafts village located in madhapur. Hyderabad Telangana, India.

The village was conceived with an idea to create an environment for the preservation of traditional crafts. There are ethnic festivals round the year Shilparamam, a crafts village, conceived in the year 1992, is situated just about few kilometers from Hyderabad city. Sprawling over 65 acres (260, 600 m²) of land in the hi tech hub city of India shilparamam gives a scenic ambience of tradition and cultural heritage. For promotion and preservation

of Indian arts and crafts and to motivate the artisans the State government established this platform.

Enchanting the blend of arts and artifact, epitomizing the treee legacy with the diverse natural beauty of rural India; Shilparamam is tribute to Andhra pradesh. Exhibiting the rustic richness and creativity of Hyderabad, It has captivated the imagination of visitors.

The lush and serene environment of shilparamam is sculpted with woodwork, jewellery cloths and local crafts of each region of the country. Showcasing a plethora of artistic ethos, shilparamam is set amidst gardens, cascading waterfalls and natural rock heights.

Major Attractions at Shilparamam

The Rural Museum -

The rural museum, surrounded by trees, is a miniature depiction of typical village over 15 life-sized huts, authentically constructed out of baked clay and thatch, depict rural and tribal lifestyles and the life of various artisans. It provides a window to rural life for city dwellers and those who have never visited a village before. The museum houses for city sculptures and life size models depicting the day-to day activities.

of the rural artisans.

Boating :-

Shilparamam has a beautiful lake which also offers the delight of boating in it. Both rowing and paddle boats are available.

The rock museum :-

Shantiniketan's Subroto Basu has fashioned a rock garden here by blending his own rock collections with the natural and picturesque rock formations found in the village. The natural formations stand ensconced in a scenic form in Rock museum. This rock museum adds a fantastic ecological side to Shilparamam.

The New way to find our Shilparamam :

Just see from the iconic structure of HITEC city located about 14 kms from Hyderabad at madhapur, you'll find the impressive gateway with huge terra-cotta horses that leads to a village with festive looking precincts. This is Shilparamam, the arts, crafts and cultural village.

Shilparamam shopping is the famous not just residents of Hyderabad but also among tourists. craftsmen from all over India, display their works here, varying from traditional jewellery,

hand-woven saris, shawls, dresses, bed sheets, etc; and handcrafted wooden and metal wares. If you are looking for some street shopping, you have option for that too. There are many shops selling clothing of every kind in cheaper rates. All you require is some flair for bargaining.

However, along with shopping in Shilparamam, visitors can also relish some spicy chaats and mouth watering snacks. For art lovers, there are always dance performances and activities conducted on the open theatre with ample of seating facility which you can see free of cost. There is also the facility for boating. Ticket price for boating is Rs-30 per person.

There is also an educational centre at Shilparamam which conducts various kinds of workshops, training camps and short term training classes. An annual festival of arts.

Activity-04

AP Science fair

AP Science fair

B. satyaveni of ZPHS. Cheedigummala, Golugonda mandal, explaining her 'solar power tree' project to minister for infrastructure and investment Ganta Srinivasa Rao at the valedictory district-level science fair in Visakhapatnam on thursday photo: C.V subrahmanyam.

Minister for Infrastructure and Investment Ganta Srinivasa Rao has underlined the importance of promoting creativity among children and said that small ideas can lead to future inventions.

At the valedictory of the two-day District-level INSPIRE science Exhibition at the SFS school at Seethammadhara here on Thurday, the minister called the selected team members on stage and asked them to explain about their models. Impressed by their presentation he commended them.

He said that preparation of models would increase their creativity besides helping them understand the concepts better.

He later visited the stalls and was impressed by their presentation.

A total of 220 entries were submitted from various mandals in the district for the Exhibition.

Of these 204 models were displayed at the expo and 16 of them were selected for display at the state-

level expo to be held at Anantapur on December 7, 8 & 9.
District Education Officer B. Lingeswara Reddy, Deputy DEO C.V. Renuka SFS school principal Fr. Joji Babu were on stage.

The 16 models selected for the state-level expo are: 'Bhukampala heechharika' by D. Divya of MPUP school, Rajupeta (Munagapaka Mandal), 'Pollution control system' by P. Charan of MPUP school, K. Koppaka, Anakapalle Mandal; 'Fire detector' by E. Vinod Kumar of MPUP school, Ramachandrapuram, Kotauratla mandal, 'Poor man's air cooler' by S. Sai Bhavani of MPUP school Medipaka, Munagapaka mandal, 'Vermisash' by P. Varun Kanta of ZPHS Seetanagaram, 'Preventing theft of electricity' by K. Mohon of ZPHS, Peddaboddepalli, Narsipatnam, 'burglar alram' by A. Sai of ZPHS, Balighattam, 'Tidal wave energy' by N. Rajesh of ZPHS; Burugupalem, 'Humans in biodiversity' by M. Nagendra of ZPHS Gabbada, Narsipatnam mandal, 'Biogas and paper recycling' by A. Sai Durga Prasad, ZPHS Narayanapatnam, 'Plastic separation in waste management' by G. Ramesh of ZPHS Dimili, Rambilli mandal, 'Rain detector circuit' by P. Vijay Raju of government high school, Thandava, Nathavaram mandal,

'Solar power tree' by B. satyaveni of ZPHS Cheedigummala, Golugonda mandal, 'water level - indicator' by M. sai Kumar, ZPHS Thurakalapudi, Butchayyapeta mandal, 'Annadata Sukhibhava' by V. Sai Kishore of ZPHS Guntapalli and 'Biotoilet' by J. Sai Sneha of Nalanda Public School, Narsipatnam.

Activity-05

National Science day celebrations during the internship

National Science Day

Student of the Vasavi college of Education are celebrated the national science day in Kavya high school B. Peta those who go to internship

National Science Day is celebrated all over India with great enthusiasm on 28th of february every year in order to commemorate the invention of the Raman effect in India by the Indian physicist, Sir chandrasekhara venkata Raman on the same day in the year 1928. for his great success in the field of science in India, chandrasekhara venkata Raman was awarded and honored with the Nobel prize in the physics in the year 1930.

National Science day 2018

National Science Day 2018 in India will be celebrated on 28th of february, at wednesday.

History of National Science day celebration in India:

28th of February, 1928 was the great day in India when an invention in the field of Indian science was completed by the famous Indian physicist, Sir Chandrasekhara venkata Raman. He was a Tamil Brahmin and first one in the Science, who had-

researched such invention in India. To commemorate and honor this event always in the future, 28th of February was asked to the Indian Government to designate as a National Science Day in India by the National council for Science and Technology communication (NCSTC) in the year 1986.
From then, the national Science day was started celebrating all across the India as a great event in the field of Indian Science. It is celebrated every year by students, teachers, scientists and researchers in all the schools, colleges, universities, educational institution including scientific academic, medical, technical and Research institution of India. On the first celebration ceremony of the National Science Day in India, the National council for science and technology communication had declared the institution of the National Science popularization awards in order to recognize an excellent and wonderful endeavor in the field of Science communication and popularization.
Sir Chandrasekhara Venkata Raman had worked from 1907 to 1933 at the Indian Association for the cultivation of Science, Kolkata, west Bengal in India during which he had researched on many topics of the physics from which the Raman

Effect (effect on scattering of light when passing through different materials) become his great success and discovery which has been marked in the Indian History. for his big invention he was honored through the various Indian awards including the Nobel prize in the year 1930. From the year 2013, the "Raman Effect" has been designated and international Historic chemical Landmark by the American chemical society.

During the national science day celebration of the year 2009, the Indian Department of science and Technology has awarded the five Indian institutions through the National Award for science communication in order to recognize the big effort and achievement of the Indian scientists of the government and non-goverment organizations for popularizing and leading the modern science in the country. The vikram sarabhai community Science centre was given the highest award in the year 2009 to recognize it's big contribution to the science.

The national science day has been started getting celebrated as the science carnival to recognice scientific activities and programs by participation

of students from school and college, scientists from the state and national faculties. This event celebration has provided a real platform for various new comer scientists to fix their feet and bright their career in the science profession.

How National Science day is celebrated :

National Science day is celebrated as one of the main science festivals in India every year during which student of the schools and colleges demonstrates various science projects as well as national and state science institutions demonstrate their latest researches. The celebration also include public speech, radio - TV talk shows, exhibitions of science movie, science exhibition based on themes & concepts, watching night sky, live project and Researches demonstration, debates, quiz competition lectures, science models exhibitions and many more activities.

It is celebrated every year with immense passion at the Giant metrewave Radio Telescope (also called (GMRT) at Khodad which is a worldwide famous telescope getting operated at low radio frequencies by the NCRA (National centre for Radio Astrophysics) established by the TIFR (Tata institute of fundamental Research.

Variety of activities is organized by the NCRA and the ceremony of National Science bday celebration in order to recognize their leading research activities in the field of radio astronomy and astrophysics. Variety of programmes is also held for the common public and student community to popularize the science and technology in the country.

The minister of science and technology give a massage through his speech at this day to the students, Scientists, Researchers and general public of the nation.

Objectives of celebrating national Science day

⇒ National Science Day is being celebrated every year to widely spread a message about the significance of scientific applications in the daily life of the people.

⇒ To display the all the activity, efforts and achievements in the field of science for human welfare.

⇒ To discuss all the issues and implement new technologies for the development of the science.

⇒ To give an opportunity to the scientific minded citizens in the country.

⇒ To encourage the people as well as popularize the Science and Technology.

Themes of National Science day :

- The theme of the year 1999 was "our changing Earth"
- The theme of the year 2000 was "Recreating Interest in Basic Science".
- The theme of the year 2001 was "Information Technology for science Education".
- The theme of the year 2002 was "Wealth from waste".
- The theme of the year 2003 was "50 years of DNA & 25 years of IVF - The blue print of life".
- The theme of the year 2004 was "Encouraging Scientific Awarness in community".