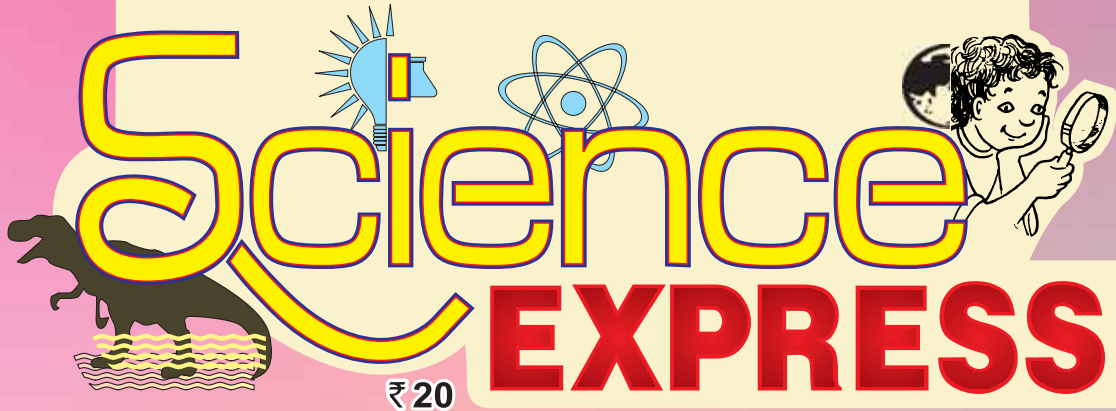


December - 2020

TOUR AROUND THE WORLD OF SCIENCE & TECHNOLOGY

Science EXPRESS

₹ 20



**Dragline Silk:
Can Change the World**



**World Disability Day
3rd December**



The World's First Nutrition Park

**The Statue
of Unity**



Our Science Center Activity

➤ ISO/ICO Competitive test -

Based on curriculum to develop practice for competitive exams among students will be held in Dec.2020.

➤ Computer Lab Programs -

1. Kaushalya Vardhan Kendra (KVK)
2. Regular 2 batches of CCC - conducted every month. (Computer Learning Skill)

➤ Brain gym -

Having more than 100 mental puzzles for brain exercise.

➤ Library -

Various types of books. Educational toys and gifts (Special 50% discount).

➤ Auditorium -

We are providing auditorium to watch movies on very nominal charges. If interested.... Please contact us.

➤ Sections like Museum, well equipped Physics, Chemistry, Biology and Math lab

➤ Outdoor innovative modern models based on Science Principles in Natraj Park and Solar Park

➤ Webinars organized by Science city:

1. Gandhi and Education - By Shri Bipin bhai Shah on 2nd Oct.

2. World Food Day and Traditional Food Video Challenge - By Dt.. Saloni Chauhan on 10th oct.

➤ Gujarat Council of Science and Technology (GUJCOST) Gandhinagar, supported following Webinars of our Science city:

1. Membrane Science and Technology - by Dr. Hiren Raval (CSMCRI scientist) on 17th Oct.

2. Role of Math-Science in New education Policy Webinar - By Dr. Nalin Pandit



Our staff is coordinating online practical classes for students through school on zoom video App. Interested schools can contact us.

આ વેબિનારમાં ગુજરાત કાઉન્સિલ ઓફ એજ્યુકેશન રીસર્ચ અને ટેકનોલોજી સીટી અંતર્ગત નાણીનગરનાં મુતપૂર્વ નિયામક શ્રી ડૉ. નવીનભાઈ પંડિત સાહેબ (શિક્ષણશાસ્ત્રી) દ્વારા

- અભિગમ કેળવવા, • કૌશલ્ય વિકસાવવા, • પ્રાયોગિક કાર્ય કરવા,
- સંશોધનાત્મક કાર્ય જેવા વિવિધ મુદ્દાઓ અંગે નવી શિક્ષણનીતિ અંતર્ગત ઘણાં ફેરફારો અને • હૃદયની કેળવણી અંગે સજ્જાત કરવામાં આવશે

શ્રી બળવંત પારેખ વિજ્ઞાનનગરી અને ગુજરાત કાઉન્સિલ ઓફ સાયન્સ એન્ડ ટેકનોલોજી (GUJCOST) નાણીનગરના સંયુક્ત ઉપક્રમે

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Department of Science & Techno
Government of Gujarat

SCIENCE CITY
Gandhinagar

GUJARAT COUNCIL ON SCIENCE AND TECHNOLOGY
GOVERNMENT OF GUJARAT

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to be a Scientist?

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Jr.Kalam :
Commerce student of
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Resonance

Would you like to be a Scientist?

- Devendra Patel



India was at the forefront and enlightened in terms of knowledge and science when all the countries of Europe were Barbarians. When the world had 1 to 9 digits count, India gave the gift of 'zero' to the world. When the world had a shortage of scientific languages, India gave the gift of grammatically scientific Sanskrit languages. Sanskrit is still the perfect language for commuters around the world. Many years ago, India had such mathematician and astronomer like Aryabhata who was considered the father of our Indian astronomy. He lived 476 years before Jesus was born. He explained why lunar eclipses and solar eclipses occur as well as the Earth rotates on its axis.

Similarly, India also gave scientists like Sir Jagdish Chandra Bose. He was a physicist and a biologist. Jagdish Chandra Bose who was born on 30th November, 1858 did research in the direction of radio and microwave optics. He proved that plants also have life.

India also gave great scientist named C.V. Raman. C.V. Raman was born in Tamil Nadu on November 7, 1888. Raman was awarded the Nobel Prize in 1930 for his research on 'Raman Scattering'. After this the series continued, India gave Dr. Vikram Sarabhai and Dr. A.P.J. Kalam who was the best scientists in the field of space science, nuclear science and missile technology but this sequence has stopped now.

Why?

Today, India's population has reached 130 crores. The country has an abundance of youth. They are all enthusiastic but the

number of young people interested in fundamental research is less. Today, no youth dream of becoming Jagdish Chandra Bose, C.V. Raman, Dr. Vikram Sarabhai or Dr. A.P.J. Kalam. Young people do not consider these scientists as their role models. They consider IT as a science.

The government is trying its best to prepare new scientists in the country, but there is a shortage of scientists in the country's top scientific research institutes.

Dr. Vikram Sarabhai was the founder of Physics Research Laboratory in Ahmedabad. In this organization, Scientists like Dr. Ramanathan came. It was the laboratory where a scientist named Prof. Mazmudar made the first robot of the country. No one knows him today and no one wants to be like him.

Today, there are about 70 major research institutes in the country, but there are about 3,200 vacancies for scientists. There are 177 vacancies in an organization called 'CSRR' in Bangalore. There are 127 vacancies for scientists in the National Chemical Laboratory in Pune. Union Minister Harshvardhan gave this information of the shortage of scientists on the question which was asked in parliament.

The government has also launched several attractive schemes to address this condition. E.g. The Ramanujya Discovery Instinct, the Setu-Williams Scheme, the Inspiration Scheme and the Student and American Scientist's Contact Scheme. There are different schemes for women also. They also have facilities for research. There are

also plans and attractive packages to bring back working scientists who have settled in abroad. Still students are not interested in becoming scientist. It is also a bitter truth that extremely bright students keep going to Europe or America to make their careers. Even the brightest students have to submit to the bureaucracy in the country to get a job. This is not the case of just today, this has been the situation for years, where will our youth go if they will have to pay for getting a job? It is also true that there is an abundance of enthusiastic youth in India but their role models are cricketer, athlete, film-actor or actress or politician. Someone wants to be Virat Kohli, someone wants to be Deepika Padukone, someone wants to be Salman Khan, someone wants to be a government official or a leader but no one wants to be Vikram Sarabhai or Dr. A.P.J. Abdul Kalam. Today's generation only wants name, money and fame, A car with a red light or a minister's air-conditioned chamber attracts them more than a science laboratory. Another temptation for young people is that everyone just wants to go in IT. No one wants to go in advance space science. Sunita Williams a native woman of Gujarat, could have become an American astronaut but if she had been in India, she would not be able to find a job. This is the irony created by our bureaucracy.

It should also be understood that there is another difference between American and Indian universities. American universities themselves encourage students for scientific research. Research from American universities makes a significant contribution to the development of NASA space science equipment. Hardly any university in India does such a thing. Universities in India take the exams of the students and they get satisfied by just giving the certificate of pass and failure and the exams are just the

memory-based tests. No work is done to promote the creative power of the student or the original research. Recently in Karnataka, a farmer named Ganapati Bhatt made a motorcycle which can climb a tree and break a coconut or areca nut, but the research was not considered scientific research and no one respected the farmer.

Yes, there was a time when the scientific institutes of the country were short of money, today there is no shortage of money or research. Still students run away from scientific institutions. One of the major reasons for this is that schools, colleges or no one at home teaches student that even science is a major field. If a son or daughter is brilliant then they are asked to become an IAS or IPS and yes, everyone wants their child to become a doctor only. Everyone knows that becoming a doctor will earn you a lot of money and becoming a collector or a police officer... Let it go.

When there is a shortage of scientists in the country, it should be remembered that this country has not given only Nobel Prize winning scientists like CV Raman but also gave Satyendranath Basu who worked with Einstein. In addition, scientists like P. C. Ray, Meghnat Saha, Ramanujan and Homi Jahangir Bhabha will never be forgotten. Homi Bhabha was country's first nuclear scientist and his death in flight crash in alpass mountain is still a mystery today. The sudden death of Dr. Vikram Sarabhai in a hotel room is also suspicious for many.

Is it not the hand of the intelligence agencies of the western countries behind the disappearance of such brilliant scientists of the country?

This question will never be answered.

Yes, the answer to this question can be given if our youth becomes Homi Jahangir Bhabha or Dr. Vikram Sarabhai.





Career 360

Bio Enzymes: Natural cleaning vinegar

It brings me immense pleasure to write this article after successfully completing over 250+ workshops on Bio Enzymes, Probiotics, Food, and workshops on Sustainable Living in India and Abroad.

In my journey since 2013 I have visited parts of India and abroad travelearning (travelling + learning) and sharing to people on our learning by creating the need to turn towards a sustainable lifestyle.

My journey with these wonder cleaners has brought a green revolution among the people I connected with. Many have been involved largely in producing Bio Enzymes at their homes.

A few more have been inspired by what we do, as some of them had stayed with us in our home and a few travelled with us in our endeavor of sustainable living. This article is the outcome of my personal experiences and the experiences of people with the natural cleaning vinegars.

I was raised in the city of Hyderabad, Telangana. Little did I know that I would quit the mainstream lifestyle to move towards something that I never even imagined. All my life I was looking for something, seeking to achieve something, a quest to find something meaningful and a quest for success and being successful.

I always wanted something different than the mainstream lifestyle. I spent many years of my life addicted to work related stress and

"busy-ness" forever trying to push things to get to the bottom of a to-do task list. My life was constantly aspiring to achieve something that may make no sense at all in my current lifestyle but at a totally unnecessary speed. So, it all started in the year 2011 when I resigned and got relieved from a corporate job. I was confused if I had taken the right decision to quit. Just then, to comfort my insecurities I had to take up small time low paying jobs to support my EMIs and some local expenses.



Somewhere we as a family learnt that we needed to slow down and look at more possibilities to experience life as whole and as it is. We changed everything that could affect us as

a family in the long run. We were just then looking for a change in what we use at home to cleanse ourselves and Bio enzymes happened to us.

Bio enzymes was a small-time home affair until 2016-17. But during the beginning of 2017 we took off attending various forums to create spaces so that we could share the knowledge on Bio enzymes. In the year 2018 we organized a big event when we invited a renowned motivational speaker Mr. Healer Baskar who speaks on various subjects such as healthy body, healthy mind, healthy family, healthy education and sustainability. He was happy to know that we were involved in this as a family and he helped us and created a

bigger platform for Bio enzymes to be promoted in Tamilnadu and the rest of the world to places wherever he travelled.

Cleanliness is next to impossible for so many people living on this planet. That's because cleaning involves tremendous physical activity along with a mental pre-preparatory plan. Cleaning is an important activity in protecting our physical, mental and spiritual health in our homes, schools and work atmospheres. However, the regular household cleaning products like detergents and disinfectants, soaps, etc. often include harsh and harmful chemicals. There are, however, some very effective non-chemical alternatives, you can try those ordinary household products.

"Fresh Kitchen Waste + Water + Jaggery (Microbial Fermentation for 90 days) = BIO ENZYME"

The term Bio Enzyme may be a misnomer as it may not contain the actual enzymes in technical terms. However, the terms Garbage Enzyme, Fruit Enzyme, Kitchen Waste Enzyme, Fermented Fruit Juice and now the name Bio Enzyme is popularized since few years.

Since the process of making the Bio Enzyme is similar to that of the vinegar making process, we would like to stick to the basics and call them as natural cleaning vinegars. Vinegar is an alcoholic liquid during the initial fermentation that has been allowed to sour further to stabilize. It is primarily used to flavor and preserve foods and as an ingredient in salad dressings and marinades.

Vinegar is also known for that deep cleansing properties and have been used as a natural cleaning agent. The word is from the French vin (wine) and aigre (sour). That's how we got this term called Vinegar. With its super-powerful cleaning and disinfectant-surfactant

properties, this natural cleaning vinegar rivals any commercial cleaner for effectiveness and can be used for cleaning all-around your home. Smell it as you like with a variety of all-natural essential oils or any favorable natural herbs whose fragrance may be pleasing to your olfactory sensory neurons, which are earth-friendly and biodegradable.

Your imagination is the limit!

Bio enzymes is nothing but natural cleaning vinegar that is produced by the simple fermentation of fruits, vegetables, flowers and leaves. Although any fruit peel, any vegetable peel, flower or leaf can be used to produce the natural cleaning vinegars. You can make use of any citrus peels such as the lemon peels, orange peels, bitter orange peels, citron peels, desert lime peels, sweet lime peels, pomelo peels, tangerine peels, star fruit, and pineapple peels.

So, why do we need to use natural cleaning vinegar at home? it's natural and non-toxic. You don't have to worry about strange cleaning chemicals when you're using natural cleaning vinegar to clean your house! It may not be incredibly cheap to buy but definitely cheaper if you make it at home.

It's really versatile! You can use it to clean all kinds of things, you can just clean anything and everything. From **"hair wash to car wash"**, anything and everything can be cleaned.

It is just not about cleaning anything and everything. These act as natural insect and pest repellants especially for mosquitoes. The natural cleaning vinegars use extremely less water thus, creating low water print. We encourage people to make these natural cleaning vinegars at home to safe guard themselves from the effects of chemicals and hence, the environment.

So, let's move towards this work...





Vitamin

One minute

Patient (to the doctor) - Doctor, I can't remember anything after a minute.

Doctor - Since when ??

Patient - What??



Benefit from ants

The teacher in the class asked - Tell me, how do ants benefit us?

Chintu immediately stood up and said - Sir ants show us where the sweets have been kept.

15th August

Monu - Sonu, what should we do on 15th August?

Sonu - Nothing more. We should talk about our freedom to moms and dads.



Let's become Jain

Teacher - Tell me children, why Jains are mostly rich?

Students - because they do not eat onions.

Digit in words

Yesterday I met my 10th standard math teacher and I bowed down to him, talked for a while and asked for his mobile number.

The teacher replied- "Write, nine billion eighty-four crore eighty-two lakh twenty-seven thousand five hundred and forty-five"

I bowed down again and started walking.

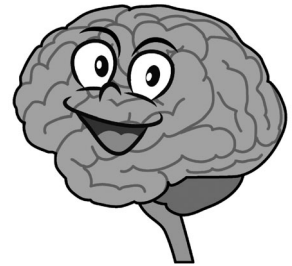


Online Class

If you have brain....

A patient (to doctor friend) - I want to donate my brain to the hospital after my death.

Doctor - OK. If there is a brain, we will take it.



Botany

One boy to another - Our teacher always had plants in his hands.

Other boy - Why? Was he a gardener?

First boy - No, he used to teach botany.

Treatment of thorns

DOCTOR SATISFIED PATIENT



A child to doctor - Sir, I dream every night that I have a thorn in my foot. What is the cure for that?

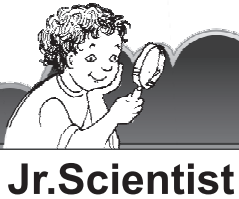
Doctor - Sleep every night wearing shoes, no thorn will hurt you.

Online Class

Teacher: Tell me kids What did we finish today in our online class?

Student: Battery and mobile data.



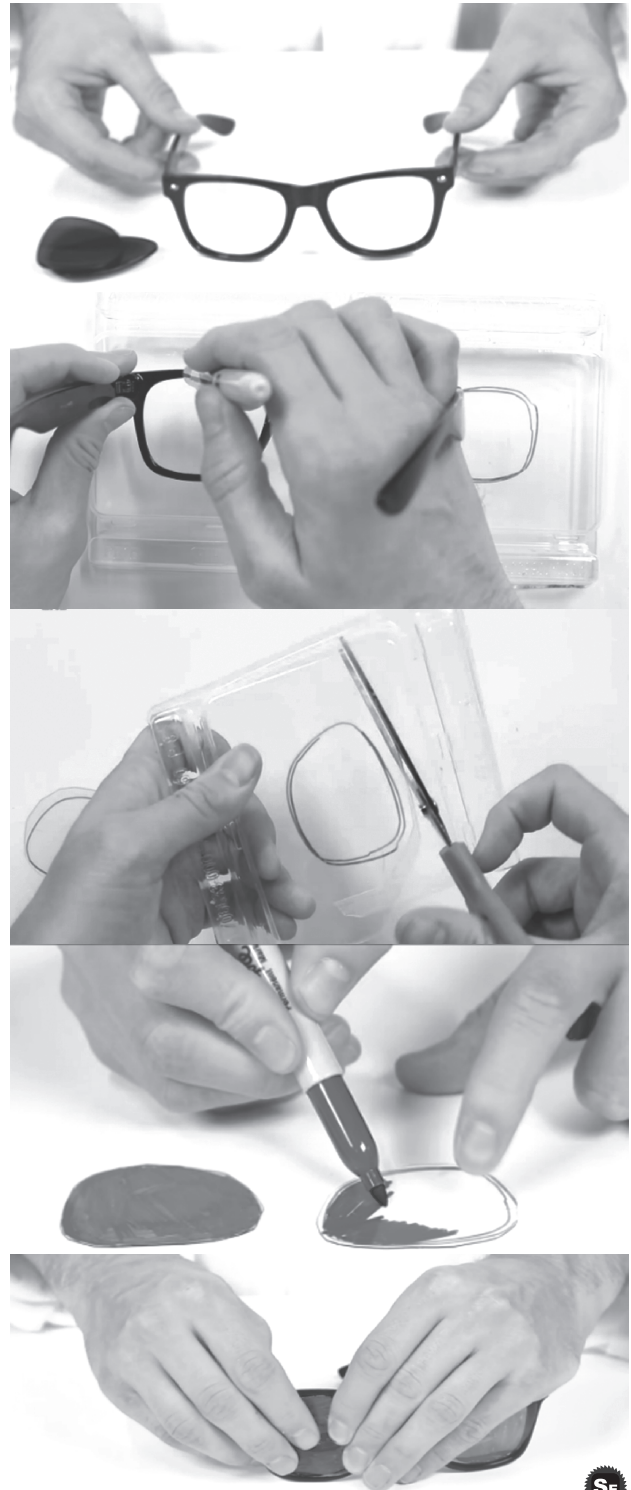


Let's make 3D sunglasses

Tools:

scissor, a clear transparent plastic, red and blue permanent markers, glue gun - and an old pair of spectacles.

1. First take your spectacles and carefully remove the lenses.
2. These lenses are quite tightly fitted so it's best to ask an older person for your help.
3. Hold the spectacles over the clear plastic wrap and then mark the inner part of lenses with the pen.
4. Draw the outline of the lens of the right eye with a blue marker.
5. Repeat the process with the red marker on the left.
6. Use scissors to carefully cut these pieces of plastic.
7. Cut the plastic from the outside of marked area.
8. So that you can always carve it more to fit better.
9. This will help you create a new set of lenses.
10. One of your lenses is to be painted one red and one blue.
11. Make sure each lens is painted with perfect color.
12. This will help the 3-D effect to work really well.
13. Let's fit it in our glasses now.
14. Insert red lens in left eye.
15. Insert blue lens in right eye.
16. You can use glue if it does not fit properly.
17. Now let's find some 3-D footage. You will find many 3-D pictures and videos on the internet. Watch and enjoy.





Jr.Kalam

Commerce student of Std. 12 invented e-bike

With the approach of preventing pollution by getting rid of RTO rules, a 12th Commerce student from Bhavnagar invented an automatic moving vehicle and gave an attractive look to an electric bike.

In Bhavnagar, an average of 300 vehicles are being detained every month for non-compliance with the rules of the RTO. The idea of building an automatic vehicle without the complexity came to 17 years old Yash Pravinbhai Parmar's mind who lives in Manbhai Bhatt's plot in shishuvihar. Not trying to solve the problem but trying a unique solution and built a new vehicle. He made a body of a new vehicle and invented mini-electric bike. By collecting tools from different shops to make this bike. one shop to another, this young man has found a solution against the complexity of traffic rules by making a mini electric bike at home in about 6 months.

The vehicle also has an indicator, current light, horn as well as a speedometer has been fitted in the vehicle which shows the speed of the vehicle and how much battery it has. It gives speed of 30-35 km/hr. and gives an average of 35 km. It runs 1 kilometer for about



10 paisa. This bike will help to get read of pollution as well as Petrol-Diesel and Complexity of RTO. It also needs less maintenance.

Congratulations Yash Parmar,

Friends you can also try to solve your problems and get guidance from Science city, if needed. Science City provides a platform for solving children's problems in a scientific manner.





For
notice
board

for students of standard 4th to college

Objectives : ISO-ICO exams develop children's attitude towards science - maths, Computer and logic and cultivate creativity amongst them and help them in comprehensive development.

To get ready for competitive exams like UPSC, GPSC, RBI, SBI, IPS, SSC, LIC, INDIAN RAILWAY etc., gain confidence and achieve success.

ISO fees: Rs.70

Date : 03-12-2020 (changes can be made)

Section : 7 section of std 4th to 10th

Time : 90 minutes - 10:00 am to 11.30 am

Structure : Science-Environment based MCQ

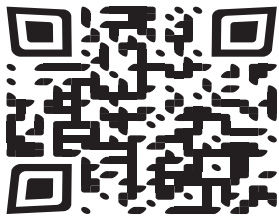
ICO fees: Rs.70

Date : 10-12-2020 (changes can be made)

Section : 7 section of std 5th to 12th and college

Time : 90 minutes - 1:30 pm to 3.00 pm

Structure : Computer, IT, IQ and Maths based MCQ



SCAN ME

**Center:
Student's
School**

**Medium:
English/Gujarati
Method :
Online/Offline**

Benefits

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2. One-year free Subscription of Science Express as consolation prize.
3. Winners will get prize cheque and colourful certificate will be given to all the participants.
4. Curriculum based workbook will be given for preparation.



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