



**HIMACHAL PRADESH COUNCIL FOR SCIENCE TECHNOLOGY & ENVIRONMENT,  
(HIMCOSTE)  
34-SDA COMPLEX, KASUMPTI, SHIMLA-9**

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**Hands on Science Activities**

Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE), Shimla works for the Popularization of Science. “Hands on Science activities workshop” was organised for the school teachers serving in tribal and remote areas of the Pradesh in Kinnaur, Chamba, Lahaul-Spiti and Kangra districts. These workshops were organised in the respective districts at DIET- Kinnaur, Bhure Singh Museum, Chamba, Bachhat Bhawan, Keylong and Zila Parishad Hall, Dharamsala, Kangra.

The resource persons for the workshop were from Vigyan Prasar, Department of Science & Technology, New Delhi Mr. B.K. Tyagi, Scientist-F, Mr. Manish Yadav, Science Communicator, Dr. Aparna Sharma, Sr. Scientific Officer (HIMCOSTE), Mrs. Shubhra Banerjee, Sr. Scientific Officer (HIMCOSTE), Mr. Ravi Sharma, Sr. Scientific Associate (HIMCOSTE) Mr. Shashi Dhar Sharma, Sr. Scientific Associate (HIMCOSTE), Ms. Sangeeta Chauhan, Project Associate (HIMCOSTE), Sh. Rahul Verma, Project Associate (HIMCOSTE), and Ms. Ritika Kanwer, Scientist-B (HIMCOSTE).

**OBJECTIVE:**

The objective of the “Hands on Science Activities” workshop is to train and empower tribal science teachers, in schools located in far flung inaccessible regions where there is no access to internet and mass media facility for undertaking easy and simple experiments in the class room so that students are able to understand the difficult concepts. The Science teachers learnt the advanced and difficult topics of Science through creativity and activities. This would further help them in comprehending difficult scientific theories easily and in turn would enable students to learn these scientific concepts and experiments during classroom teaching learning.

This is for the first time that Department of Science and Technology along with their ancillary bodies has organised such workshops especially for the teachers teaching in Tribal areas. Instead of cascade model where there is transmission loss, direct model of training was adopted. This

was a great opportunity for the teachers posted in geographically difficult and tribal areas of the State to enhance their teaching skills and also get doubts cleared.

The State Council was allocated four such workshops at Reckong Peo, Chamba, Keylong and Kangra district respectively. These workshops were fully funded by Vigyan Prasar, Department of Science & Technology, GoI. These were especially designed for the science teachers working in far flung inaccessible tribal regions.

### **Activity-I**

“Hands on Science Activities”workshop for the Science TGT and PGT teachers was organized at DIET, Reckong- Peo, in the district headquarters of tribal district Kinnaur, Himachal Pradesh w.e.f. 27<sup>th</sup> to 29<sup>th</sup> March, 2017.

The first workshop of the series was organised at DIET, Reckong Peo w.e.f. 27<sup>th</sup> to 29<sup>th</sup> March, 2017. The workshop was attended by more than 70 science graduate/post graduate teachers working in different schools located at tribal District of Kinnaur.

The workshop was inaugurated by Dr. Naresh Kumar Lath, IAS, Deputy Commissioner, District Kinnaur. In his inaugural address Dr. Lath highlighted the need of specialised training programmes for tribal teachers to make them updated in the area of modern science in which these teachers are lacking due to inadequate mass media and internet facilities. He further praised the State Council for organising this workshop at Reckong-Peo. Sh. Rohit Malpani, Superintendent of Police, District Kinnaur was the Guest of Honour for the occasion. In his address he tried to explain the meaning of science in an easier and understandable method. He also highlighted the importance of such training workshops. He expected that the present workshop would be beneficial and have deep impact on the methodology of the science teaching in schools.

Sh. Kunal Satyarthi, IFS, Joint Member Secretary, State Council for Science, Technology & Environment, Himachal Pradesh welcomed the guests and participants of workshop. In his welcome address he highlighted, in brief, the role of State Council for Science, Technology & Environment in popularisation and promotion of science. Sh. Satyarthi told that through Children’s Science Congress programme, the State Council covers

around 20,000 child scientists from about 5000 schools located in all the 60 sub divisions and 12 districts of the state.

Sh. B.K. Tyagi, Scientist-F, Vigyan Prasar, in his keynote address, conveyed the objective of the workshop. He told that during these three days training programme the science teachers would easily understand the different theories and principles of Physics. Simple hands on experiments would be conducted by the experts by using easily available material like bottles, tubes, balloons magnets etc.

Dr. Aprana Sharma, Sr. Scientific Officer delivered the vote of thanks. She thanked all the dignitaries present on the occasion and she also thanked Sh. B.K. Tyagi, Scientist-F and Vigyan Prasar for funding and providing experts for the workshop at Reckong Peo.

Thereafter, the technical sessions of the workshop were conducted by Dr. B.K. Tyagi, Scientist-F, Vigyan Prasar and Sh. Manish Yadav, Science Communicator, UP Council for Science & Technology. Both of them explained the easier methods of understanding the theories, experiments & different principles involved behind phenomenon.





## Activity-II

The workshop on “Hands on Science Activities” a part of Science Popularisation Programme for Science TGT and PGT teachers was organised in the Bhuri Singh Museum, Chamba w.e.f. 19<sup>th</sup> to 21<sup>st</sup> April 2017. It was a residential training workshop, specially designed for the science teachers working in far flung inaccessible tribal regions of Chamba district. This was the second workshop of the series. The workshop was attended by more than 75 science graduate/ post graduate teachers.

The workshop was inaugurated by Sh. Sudesh Kumar Mokta, IAS, Deputy Commissioner, District Chamba, H.P. During his inaugural address Sh. Mokta highlighted the need of specialised training programmes for tribal teachers to make them updated in the area of modern science in which these teachers are lacking due to inadequate mass media and internet facilities. He further praised the State Council for organising this workshop at Chamba. Sh. Anil Sharma, IFS, Conservator of Forest,

Chamba, H.P., Sh. Devinder Pal, Deputy Director (Higher Education), Chamba, H.P. and Sh. Baljit Singh Thakur, Deputy Director (EE), Chamba, H.P. were the Guest of Honour for the occasion. During their address they tried to explain the meaning of science in an easier and understandable method. They highlighted the importance of such training workshops.

Sh. Kunal Satyarthi, IFS, Joint Member Secretary, State Council for Science, Technology & Environment, Himachal Pradesh welcomed the guests and participants of workshop. Sh. Kunal Satyarthi highlighted, in brief, the role of State Council for Science, Technology & Environment in popularisation and promotion of science. He further added that through Children's Science Congress, the State Council covers around 20,000 child scientists from about 5000 schools located in all the 60 sub divisions and 12 districts of the state.

Sh. B.K. Tyagi, Scientist-F, Vigyan Prasar, in his keynote address, conveyed the objective of the present workshop. He told that during these three days training workshops, the science teachers would easily comprehend the difficult to teach theories or principles of Physics. Hands on experiments would be conducted by the experts and the rationale behind these experiments would be automatically conveyed to these science teachers.

Dr. Aparna Sharma, Sr. Scientific Officer delivered the vote of thanks. She thanked all the dignitaries present on the occasion and also thanked Sh. B.K. Tyagi and Vigyan Prasar for funding such workshops.

The technical programme of the workshop was conducted by Dr. B.K. Tyagi, Scientist-F, Vigyan Prasar and Sh. Manish Yadav, Science Communicator, UP Council for Science & Technology. Both of them explained the easier methods of understanding the theories, experiments & different principles involved behind phenomenon.

### **Activity-III**

The workshop organized by HIMCOSTE on Hands on Science Activities was a part of Science Popularisation Programme. It was a three days residential training workshop for the Science teachers and Eco club in-charges working in Govt. schools in the tribal District of Lahaul -Spiti.

The objective of the Hands on Science Activities workshop is to train and empower tribal Science teachers, in schools located in far flung inaccessible regions where there are no access to internet and mass media facility. The Science teachers learnt advanced and difficult topics of Science through activities. It would further help them in comprehending difficult scientific theories easily and in turn make students learn and understand scientific theories and experiments during classroom teaching learning.

This is for the first time that Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE), Shimla along with Vigyan Prasar and its ancillary bodies have organised such workshops especially for the teachers teaching in Tribal areas. Instead of cascade model where there is transmission loss, direct model of training was adopted. The resource persons for the workshop were Dr. B.K. Tyagi, Scientist-F, Mr. Manish Yadav, Science communicator from Vigyan Prasar, Government of India, Mrs. Shubhra Banerjee, Sr. Scientific Officer (HIMCOSTE) and Mr. Shashidhar Sharma, Sr. Scientific Associate (HIMCOSTE).

This was the third workshop of the series w.e.f. 24<sup>th</sup> to 26<sup>th</sup> June, 2017 at DC Office, Conference Hall, Keylong, Distt. Lahaul & Spiti. About 50- Science graduate/ post graduate teachers of tribal regions of District Lahaul-Spiti participated in the workshop. It is hoped that the workshop will prove to be a milestone in the field of learning Science through activity and experiments. The workshop was inaugurated by Sh. Sunny Sharma, ADM, Distt. Lahaul & Spiti, he stressed on the need for understanding the concepts of science rather than memorising. He said science should educate the students not only in understanding the scientific concepts properly and its applications in day to day life but also in understanding its utility in the maintenance of good health including taking of medicines, vaccination and antibiotics judiciously. He also emphasised that upkeep of proper hygiene in and around the vicinity of school, home and work-place is very important; conservation of natural resources, environment and its optimal utilization is must. At the end he said teachers must encourage the students to participate in various activities and help them in realizing their dreams.

Technical sessions were conducted by Sh. B.K. Tyagi, Scientist-F, Vigyan Prasar, DST, New Delhi and Sh. Manish Yadav, Science communicator, UP Council for Science & Technology. Sh. Ravi Thakur, MLA, Lahaul Spiti presided over the valedictory session on the concluding day. Joint Member Secretary, Shri Kunal Satyarthi, HIMCOSTE

apprised all of them about the various activities undertaken by the Council for Science Popularization and also replication of technologies in the villages for the betterment of their lives. He also explained in brief the major thrust areas of the Council like Climate change, Biodiversity board, AGiSAC, etc. Certificate of participation was given to all the participants.







This was a great opportunity for the teachers posted in geographically difficult tribal area of the State to enhance their teaching skills and also get doubts cleared. It is hoped that the workshop would prove to be a milestone in the field of learning Science through activity and experiments.

#### **Activity IV-**

Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE), Shimla organised 'Hands on Science Activities' for Science teachers teaching in tribal and distant places of district Kangra at the Zila Parishad Hall, Dharamsala w.e.f. 4<sup>th</sup> to 6<sup>th</sup> September, 2017. About 73 teachers serving in various schools of Kangra district attended the workshop. The workshop was inaugurated by Shri Kamal Kant Saroch, ADM, District Kangra. Mr. Gupta, Deputy Director Higher Education, Ms. Anju, Assistant DDEE was also present. Mr. Saroch said that it is important to understand the concepts of science and their application. Studying science should not be a burden but a joy. It's the responsibility of the teacher to break the monotony of class room and make teaching joyful, than only students would be motivated to take up science in under graduate level.

Sh. B.K. Tyagi, Scientist–F, VigyanPrasar, DST, New Delhi, Mr. Manish Yadav, Science Communicator, Vigyan Prasar and Mrs. Shubhra Banerjee, Senior Scientific Officer, HIMCOSTE were the major Resource persons for the workshop. The workshop dealt with simple experiments related to the syllabus, which empowered the teachers to make understand students the difficult and complicated concepts easily and effortlessly. Most of the concepts

were Physics related, from light, magnetism, electricity, theories of motion etc. which the students find little more difficult to comprehend and understand. Through simple experiments, difficult concepts were made easy to learn.

The entire concept of the workshop was conceived and formulated by Prof. Harish Chandra Verma, who has worked extensively in experimental Physics, in IIT, Kanpur. This programme was funded by Vigyan Prasar, Government of India, New Delhi.

Mrs. Archana Sharma, IFS, Member Secretary (HIMCOSTE) was the Chief Guest for the valedictory session. Mr. Kunal Satyarthi, IFS, Joint Member Secretary (HIMCOSTE) apprised the participants of about the major activities undertaken by the council. He also encouraged the teachers to volunteer to be the master trainers for conducting such workshops in the state. Certificate of participation was given to all the teachers.





## Total Expenditure

Sl. No.	Hands on Science Activities	Expenditure
1.	Reckong –Peo, District Kinnaur	2,37,256/-
2.	Chamba	3,23,106/-
3.	Keylong, District Lahaul &Spiti	3,49,339/-
4.	Dharmshala, District Kangra	1,77,700/-
	<b>Total</b>	<b>10,87,401/-</b>







# दिव्य हिमाचल - 5.9.2017

## ...छात्र ऐसे बढ़ाएं साइंस में रुचि धर्मशाला में तीन दिवसीय कार्यशाला का शुभारंभ

■ दिव्य हिमाचल ब्यूरो, धर्मशाला

विज्ञान विषय में बच्चों की रुचि बढ़ाने के लिए विज्ञान की जटिल अवधारणाओं को सरल प्रयोगों द्वारा विद्यार्थियों को समझाने की आवश्यकता है।

रोजमर्रा के जीवन के व्यावहारिक उदाहरणों और प्रयोगों द्वारा विज्ञान की कठिन अवधारणाओं को विद्यार्थियों को आसानी से समझाया जा सकता है। कांगड़ा जिला के जनजातीय व दूरदराज में कार्यरत विज्ञान अध्यापकों के लिए आयोजित तीन दिवसीय कार्यशाला सोमवार को धर्मशाला में आरंभ हुई। हिमाचल प्रदेश विज्ञान, प्रौद्योगिकी और पर्यावरण परिषद शिमला द्वारा

धर्मशाला के जिला परिषद हाल में चार से छह सितंबर तक चलने वाली इस 'विज्ञान गतिविधि कार्यशाला' का उद्देश्य पाठ्यक्रम में कठिन और जटिल अवधारणाओं को शिक्षकों द्वारा विद्यार्थियों को आसानी और सहजता से समझाने में सक्षम बनाना है। कार्यशाला के आरंभिक सत्र में अतिरिक्त उपायुक्त केके सरोच ने विज्ञान विषय में बच्चों की रुचि बढ़ाने के लिए विज्ञान को जटिल अवधारणाओं को सरल प्रयोगों द्वारा विद्यार्थियों को समझाने की आवश्यकता को रेखांकित किया।

इस कार्यशाला में विभिन्न स्कूलों के 70 शिक्षक भाग ले रहे हैं। हिमाचल प्रदेश विज्ञान, प्रौद्योगिकी और पर्यावरण परिषद

■ कार्यशाला में विभिन्न स्कूलों के 70 शिक्षकों ने लिया हिस्सा

शिमला की वरिष्ठ वैज्ञानिक अधिकारी शुभ्रा बैनर्जी ने मुख्यातिथि का स्वागत किया। इस दौरान संदीप शर्मा ने मंच का संचालन किया।

इस दौरान दिल्ली के वैज्ञानिक बीके त्यागी ने कार्यशाला के संबंध में विस्तृत जानकारी दी। इस अवसर पर उच्च शिक्षा उपनिदेशक केके गुसा, विज्ञान कम्युनिकेटर मुनीष यादव, सहायक निदेशक प्रारंभिक शिक्षा अंजू लता, रंजना चौधरी, संतोष शर्मा सहित विभिन्न विभागों के अधिकारी तथा स्कूलों के अध्यापक उपस्थित रहे।



धर्मशाला : विज्ञान प्रौद्योगिकी और पर्यावरण परिषद शिमला के सौजन्य से धर्मशाला में जनजातीय व दूरदराज के क्षेत्रों में कार्यरत विज्ञान अध्यापकों के लिए तीन दिवसीय कार्यशाला का आयोजन किया गया। इस दौरान उपस्थित अध्यापक। कार्यशाला का उद्देश्य पाठ्यक्रम में कठिन और जटिल अवधारणाओं को विद्यार्थियों को आसानी और सहजता से समझाने में शिक्षकों को सक्षम बनाना है

# पंजाब कैसरी - 5.9.2017



धर्मशाला : तीन दिवसीय कार्यशाला के शुभारंभ अवसर पर उपस्थित अधिकारी (इनसेट में) व कार्यशाला में जानकारी प्राप्त करते शिक्षक।

## विज्ञान गतिविधियों पर 3 दिवसीय कार्यशाला आरंभ

• धर्मशाला, 4 सितम्बर (ब्यूरो): कांगड़ा जिला के जनजातीय व दूरदराज में कार्यरत विज्ञान अध्यापकों के लिए आयोजित 3 दिवसीय कार्यशाला सोमवार को धर्मशाला में आरंभ हुई। हिमाचल प्रदेश विज्ञान, प्रौद्योगिकी और पर्यावरण परिषद शिमला द्वारा धर्मशाला के जिला परिषद हाल में 4 से 6 सितम्बर तक चलने वाली इस 'विज्ञान गतिविधि कार्यशाला' का उद्देश्य पाठ्यक्रम में कठिन और जटिल अवधारणाओं को शिक्षकों द्वारा विद्यार्थियों को आसानी और सहजता से समझाने में सक्षम बनाना है। कार्यशाला के प्रारंभिक सत्र में अपने अध्यक्षीय संबोधन में ए.डी.सी. कांगड़ा के.के. सरोच ने विज्ञान विषय में बच्चों की रुचि बढ़ाने के लिए विज्ञान को जटिल अवधारणाओं को सरल प्रयोगों द्वारा विद्यार्थियों को समझाने की आवश्यकता को रेखांकित किया। इस अवसर पर उपनिदेशक

उच्च शिक्षा के.के. गुसा, विज्ञान क यूनिफ़ेटर मुनीष यादव, सहायक निदेशक प्रारंभिक शिक्षा अंजू लता, रंजना चौधरी व संतोष शर्मा सहित विभिन्न विभागों के अधिकारी तथा स्कूलों के अध्यापक उपस्थित थे।

### खसरा-रुबेला का टीकाकरण

थुरल, 4 सितम्बर (जम्वाल): उपमंडल जयसिंहपुर के रा.व.मा. पाठशाला संघोल में खसरा-रुबेला बीमारी को जड़ से खत्म करने के लिए टीकाकरण का आयोजन किया गया। स्कूल प्रधानाचार्य बी.एस. भंडारी ने बताया कि स्वास्थ्य विभाग की टीम ने विद्यालय परिसर में कक्षा छठी से दसवीं तक 15 वर्ष तक सभी छात्र-छात्राओं को टीके लगाए। कुल 76 बच्चों का टीकाकरण किया गया।

## तीन दिवसीय कार्यशाला लगाई

धर्मशाला।  
कांगड़ा जिले  
में कार्यरत  
विज्ञान  
अध्यापकों के  
लिए तीन  
दिवसीय  
कार्यशाला



लगाई गई। पहले सत्र में अतिरिक्त उपायुक्त केके सरोच ने विज्ञान विषय में बच्चों की रुचि बढ़ाने के लिए विज्ञान को जटिल अवधारणाओं को सरल प्रयोगों द्वारा विद्यार्थियों को समझाने की आवश्यकता को रेखांकित किया। उन्होंने शिक्षा विभाग के अधिकारियों को निर्देश दिए कि स्कूलों में विज्ञान प्रयोगशालाओं में विभिन्न प्रयोगों के लिए जरूरी सामग्री उपलब्ध करवाएं, ताकि विद्यार्थी विषय से जुड़े एवं अन्य प्रयोग नए करने को प्रोत्साहित हों। कार्यशाला में विभिन्न स्कूलों के 70 शिक्षक भाग ले रहे हैं। दिल्ली के वैज्ञानिक बीके त्यागी ने कार्यशाला के संबंध में विस्तृत जानकारी दी। इस मौके पर विज्ञान कम्युनिकेटर मुनीष यादव, सहायक निदेशक प्रारंभिक शिक्षा अंजू लता, रंजना चौधरी, संतोष शर्मा आदि मौजूद रहे।

हिमाचल दस्तक - 5.9.2017

# अमर उजाला - 5.9.2017



धर्मशाला के जिला परिषद हाल में विज्ञान की गतिविधियों पर आयोजित कार्यशाला में भाग लेते जिला के विभिन्न स्कूलों के अध्यापक।

## विद्यार्थी कैसे आसानी से समझें साइंस, शिक्षक लेंगे टिप्स

अमर उजाला: ब्यूरो  
धर्मशाला।

कांगड़ा के दुर्गम क्षेत्रों में कार्य कर रहे विज्ञान अध्यापकों के लिए तीन दिवसीय विज्ञान गतिविधि कार्यशाला सोमवार को धर्मशाला में शुरू हुई। कार्यशाला के माध्यम से अध्यापकों को बच्चों में विज्ञान विषय में रुचि उत्पन्न करने के टिप्स दिए जाएंगे। कार्यशाला का शुभारंभ अतिरिक्त उपायुक्त केके सरोच ने बतौर मुख्यातिथि शिरकत की।

राज्य विज्ञान, प्रौद्योगिकी और पर्यावरण परिषद शिमला के माध्यम से धर्मशाला के जिप हाल में चार से छह सितंबर तक कार्यशाला चलेगी। 'विज्ञान गतिविधि कार्यशाला' के माध्यम से पाठ्यक्रम में कठिन और जटिल अवधारणाओं को शिक्षकों से विद्यार्थियों को आसानी और सहजता से समझाने में सक्षम बनाया जाएगा। अतिरिक्त उपायुक्त केके सरोच ने विज्ञान विषय में बच्चों की रुचि बढ़ाने के लिए विज्ञान को जटिल अवधारणाओं को सरल प्रयोगों से

विद्यार्थियों को समझाने की आवश्यकता को रेखांकित किया। रोजमर्रा के जीवन के व्यावहारिक उदाहरणों और प्रयोगों से विज्ञान की कठिन अवधारणाओं को विद्यार्थियों को आसानी से समझाया जा सकता है। उन्होंने शिक्षा विभाग के अधिकारियों को निर्देश देते हुए कहा कि वे अपने अधीनस्थ स्कूलों में विज्ञान प्रयोगशालाओं में विभिन्न प्रयोगों के लिए जरूरी सामग्री उपलब्ध करवाएं, जिससे विद्यार्थी विषय से जुड़े एवं अन्य प्रयोग करने

को प्रोत्साहित हों। कार्यशाला में विभिन्न स्कूलों के 70 शिक्षक भाग ले रहे हैं। हिमाचल प्रदेश विज्ञान, प्रौद्योगिकी और पर्यावरण परिषद शिमला के वरिष्ठ वैज्ञानिक अधिकारी शुभ्र बानर्जी और दिल्ली के वैज्ञानिक बीके त्यागी ने कार्यशाला के संबंध में जानकारी दी। इस अवसर पर उप निदेशक उच्च शिक्षा केके गुप्ता, विज्ञान कम्युनिकेटर मुनीष यादव, सहायक निदेशक प्रारंभिक शिक्षा अंजू लता, रंजना चौधरी, संतोष मौजूद रहे।