

**TECHNICAL-SCIENTIFIC REPORT OF THE IV FAIR OF SCIENTIFIC SCIENCES AND EXHIBITIONS OF THE STATE UNIVERSITY VALE DO ACARAÚ/UVA: Education, Technologies and Techniques of Coexistence in the Semi-arid Environment**

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**ABSTRACT**

The report present here of the IV Science and Scientific Exhibition of the State University Vale do Acaraú/UVA, in partnership with the State University of Ceará/UECE, presents the results achieved in the realization of the project entitled "Science fair and Scientific Exhibitions: scientific development in the semi-arid environment of Ceará", the result of research carried out by students of the 9th year of elementary school and the 1st and 2nd years of high school public schools and Individuals from the state of Ceará. All the production of projects in the form of articles were published in a book in the 5 areas, i.e.: Environmental Sciences and Biotechnology; Earth Sciences; Humanities; Pure Science and Life Sciences. In the course of the project and in the conviviality between the University and the School, it is expected that the dissemination of research, can contribute to further stimulate the students involved and those around them, in order to advance the knowledge, in the current term, in doing so through the University. This said, we appreciate the dedication and knowledge of the teachers involved and the support of CNPq for establishing resources through the Call CNPq/CAPES/MEC/MCTIC/SEPED, process 439731/2018-6 Science Fairs and Scientific Exhibitions.

**Keyword:** Science Fair, School Community, Development

**RESUMO:**

O relatório aqui presente da IV Feira de Ciências e Mostras Científicas da Universidade Estadual Vale do Acaraú/UVA, em parceria com a Universidade Estadual do Ceará/UECE, apresenta os resultados alcançados na realização do projeto intitulado "Feira de Ciências e Mostras Científicas: desenvolvimento científico no ambiente semiárido cearense", fruto das pesquisas realizadas pelos alunos do 9º ano do Ensino Fundamental e do 1º e 2º anos do Ensino Médio de escolas públicas e particulares do estado do Ceará. Toda a produção de projetos em forma de artigos foram divulgados em livro nas 5 áreas, a saber: Ciências Ambientais e Biotecnologia; Ciências da Terra; Ciências Humanas; Ciência Pura e Ciências da Vida. No decorrer do projeto e no convívio entre a Universidade e a Escola, espera-se que a divulgação das pesquisas, possa contribuir em estimular, ainda mais, os alunos envolvidos e os que os rodeiam, em pleitear o avançar no conhecimento, em curso prazo, em fazê-lo através da Universidade. Isto posto, agradecemos a dedicação e o saber dos professores envolvidos e o apoio do CNPq por instituir recursos através da Chamada CNPq/CAPES/MEC/MCTIC/SEPED, processo 439731/2018-6 Feiras de Ciências e Mostras Científicas.

**Palavra chaves:** Feira de Ciências, Comunidade Escolar, Desenvolvimento

**PRESENTATION**

In its 4th edition the State University Vale do Acaraú (UVA), comes supported by experience, because, in 2013, held the 1st Science and Scientific Exhibition: scientific and cultural development in the semi-arid environment in the municipality of Sobral-CE, referring to the University, Education and Social Development Program and, soon after

the Monday, always at the municipal level and, in partnership with the National Council for Scientific and Technological Development-CNPq.

The Project Fair of Science and Scientific Exhibitions aimed to provide motivation to knowledge in innovation, science and technology and culture, associating scientific research in the different areas of knowledge and awakening to the reality of the semi-arid. Its scope involved elementary school II and high school students from public schools in the municipality of Sobral (CE). In total, approximately 400 students were present throughout the events.

In the course of the activities we create partnerships, such as the Regional Coordination of Education Development -6th CREDE Sobral, either in the dissemination, enabling access to schools and encouraging teachers. Among the actions that were carried out, it is reaffirmed that the nature of the event encourages our young students to participate in school work, growing in science, as well as giving good schools a source of projects for the elaboration of didactic material for their laboratories already assembled or under construction.

In this sense, it is appropriate to elucidate the actions of the Project, in its 4th edition. The intention of expanding the area of coverage is currently highlighted, becoming at the State level. The boldness is justified by having the State University Vale do Acaraú/UVA to cover a radius of 30 municipalities in the context of all territories of the State of Ceará.

It is observed that this institution covers the entire Acaraú valley (FALCÃO SOBRINHO, 200, 2020), comprising more than 26 municipalities, in addition to adjacent areas.

Thus, the Research and Extension Group of the Semi-arid, based on its experience in Scientific Fairs, according to FALCÃO SOBRINHO et al (2014; 2015) and, together with the undergraduate course and the Academic Master in Geography of UVA, reaffirm the mission of bringing together the schools of Basic Education to reflect the reality of the state through research and its innovative practices to the development of society.

## **JUSTIFICATION**

Science Fairs are events in which students are responsible for communicating projects planned and executed by them during the school year. During the event, the students presented papers that took them several hours of study and investigation, in which they sought information, gathered data and interpreted them, systematizing them to communicate them to others, or they built some manual or technological artifact (MEC, 2006).

Also, according to the MEC report (2006), students experience through the Scientific Fairs and Exhibitions a scientific initiation, called Junior, which is practical, seeking technical and methodological solutions to problems that they strive to solve.

It is noteworthy that scientific initiation is an instrument that allows the students to be introduced into scientific research. It is based on theoretical and methodological bases for the realization of a project, whether personal or collective initiative.

Thus, the Science Fairs and Scientific Exhibitions, through research, awaken scientific vocation of basic education students, through participation in research project, and under the guidance of qualified professional.

According to Hartmann and Zimmermann (2009), scientific initiation in Basic Education can be stimulated and practiced through school events known as Science Fairs, since it requires students to plan and develop projects, as well as their execution and presentation.

According to the authors, during the development of the stages to be fulfilled, students are mobilized to observe, investigate and build some technological and/or scientific artifact, therefore, they practice doing science already in the grades of Elementary school and high school.

The Science Fairs comprise instruments that arouse the curiosity and interest of students, allowing exchange and amplification of learning. It states that fairs are fundamental as mobilizes of scientific production on the part of the student, since the expectation to exhibit a work of his own, promotes in the students a commitment to the quality of the knowledge worked, as explained by Lima (2008).

It is note point that the difficulties for the development of research in public schools are due, in most cases, to structural difficulties, as Tsai (2003) states, the problem has as justifications: unavailability and or quality of material; high number of students in the classroom, inadequate teacher training, scarcity of bibliography; lack of time for classes and laboratory availability.

Seeking to contribute to the development of research in public schools of the State of Ceará, the Semi-arid Research and Extension Group, registered with CNPq and anchored at vale do Acaraú State University, proposed the project of the Science and Scientific Exhibition Fair, at the state level. This project has the opportunity to develop the practice of scientific initiation in public schools in primary education schools, stimulating your local reality, through the Science Fair and Scientific Exhibitions. To this end, he adopted the theme: Scientific development in the semiarid environment and its surroundings. As Chassot (2003) states, fairs give opportunities for "men" and "women" to make a reading of the world where they live.

### **GENERAL OBJECTIVE**

To provide the motivation to knowledge in innovation, science and technology and culture, associating the knowledge of Basic Education with scientific research, in the different areas of knowledge and awakening to the reality of the State of Ceará.

### **SPECIFIC OBJECTIVES**

Identify young talents focused on scientific research and motivate academic life at a higher level.

### **METHODOLOGICAL PROCEDURE**

From the form of disclosure:

- A public notice was launched through the Pro-Rector of Extension of UVA, containing the information, standards, analysis procedures and formalities institutionalized by UVA and, according to CNPq.
- The disclosure took place on the official website of the State University Vale do Acaraú / UVA, on the website of the Department of Education of the State of Ceará and the Secretariat of Science and Technology.
- Face-to-face dissemination was made in all CREDEs of the State, as well as visits to some Schools.

- Dissemination in banners in Schools
- Radio outreach

#### Target audience

Teams that present students from public schools in the State of Ceará, at the level of elementary school of the 9th grade, students of the 1st and 2nd years of high school and vocational students.

#### School participation standards

- The School may present research papers that have been developed by its students, with the guidance of tutors or researchers (professionals, research fellows...).
- Groups of a maximum of 03 (three) students may be composed, regularly enrolled. For each project it will be mandatory for the participation of a teacher in the team.
- The teacher (a) tutor (a) inserted in the team may participate in more than one group.
- The teacher (a) tutor (a) - effective or temporary - of the project must be crowded and in full exercise of his profession in the School.
- The members of these groups must belong to the same level of education.

#### Project knowledge areas

The projects to be submitted must be classified into the following categories:

- a) Life Sciences Projects – bring together studies related to living organisms, such as plants, animals and humans and related issues, areas of study.
- b) Environmental Sciences and Biotechnology Projects - Environmental Sciences bring together physical, biological and information sciences for the study of the environment and solutions to environmental problems. They integrate social sciences to understand human relations, perceptions and policies in relation to the environment. Biotechnology encompasses knowledge in the areas of microbiology, biochemistry, molecular biology, chemistry and informatics, uses the application of knowledge of systems to create a product or to provide clarification in the following fields: crop development, animal science and microbiology.
- c) Human sciences Projects - studies of historical, social and anthropological processes of the environment that present a correlation of man's influence on environmental changes, natural disasters and their action in risk prevention, as well as their ability to transform the elements of nature for the benefit of the development of humanity, and can be demonstrated through the language of the arts, innovative practices in education and product presentation.
- d) Earth Science Projects - study the scientific processes related to planet Earth. They apply knowledge of physics, geography, mathematics, chemistry and biology in order to build knowledge of the main areas of the earth system. Their studies seek to provide the solution to the scarcity of the planet's natural resources, seeking to reconcile technological advances with sustainable development.
- e) Pure Science Projects – involve mathematics, physics and chemistry, with the preliminary objective of considering cause and effect of some specific process or activity in the nature or intervention of man.

**Benefit:**

- All participants of the 3rd phase will receive certificates.
- Two (2) best projects from each area of knowledge were selected.
- Of the 2 (two) selected projects, four (4) students from each area of knowledge were awarded, where they will receive a Junior Scientific Initiation Scholarship from CNPq;
- The selection criterion consists of an interview with the teacher, and then with the student discussing the theme presented by the team;
- The amount of the scholarship was R\$ 100.00, lasting 12 months to be paid by CNPq in the current account of the selected student, according to cnpq's notice;
- The selected student was accompanied by the coordination of the project and by the teacher (a) advisor (a) for the continuity of the research during the course of 1 (one) year;
- The tutor will receive a 100-hour certificate.

**PRESENTATION PERIOD OF THE WORKS:**

1st phase - 25 papers from each area of knowledge were selected, through the scientific projects delivered at the time of registration.

2nd phase – Occurred in the second semester of 2019, at the State University Vale do Acaraú/UVA, in Sobral, Ceará.

Presentation of the projects selected for the 2nd phase

The coordination of the event made available a shirt for each team member and for the teacher (a) tutor (a), being mandatory the use of the same, aiming at facilitating the team members.

The Coordination of the event made available banners for each team, we suggest:

For each group, only one (1) polyethylene table (0.80x 1.00 m cap) was made available, in which its equipment must be organized.

During the presentation, in addition to the banners and parades, the groups presented the Research Plan or Report and the/or Research Journal (logbook).

During the exhibition, the team kept all the members in the stand to present the project to the visitors. It is mandatory for the presence of the teacher (a) tutor (a).

Project evaluation criteria

Projects containing scientific, technological, cultural, environmental and social relevance were selected, related to the theme of this Notice.

The projects are in accordance with the standards defined by the Scientific Committee.

Pre-Fair, corresponds to the intention of the School in the participation of the Fair. This is posted, through a specific document assuming commitment and acceptance of the Standards established in the Call Notice.

In the 1st phase the projects will be selected by a selection committee formed by professors and students of the Master's degree from the State University Vale do Acaraú (UVA) and the State University of Ceará (UECE), obeying the following criteria:

- a) Relationship with the theme of the event - (0-10 points);



- b) Creativity and innovation - (0-10 points);
- c) Theoretical scientific knowledge of the problem addressed - (0-10 points);
- d) Scientific methodology - (0-10 points);
- e) Depth of research - (0-10 points);
- f) Social and environmental relevance - (0-10 points);
- g) Investigative character - (0-10 points);
- h) Adequacy to the school level of exhibitors - (0-10 points).

In the 2nd phase the projects selected in the 1st phase will be presented orally. The projects will be evaluated by a selection committee composed of professors and students from the State University of Ceará and other Higher Education Institutions and the Department of Education, obeying the criteria previously established and adding:

- i) Scientific knowledge of the problem addressed - (0-10 points);
- j) Clarity and objectivity in the presentation of the work - (0-10 points);
- l) Performance of exhibitors during the presentation of the project - (0-10 points).

**EXPECTED PRODUCTS**

Production of a book of the annals, initially contemplating the projects selected in the 3rd phase.

**ADDITIONAL OBSERVATIONS**

The teacher made a commitment to meet the proposal of the current project, in the form of the content stipulated and the time accepted by him.

2nd Phase - SELECTION NOTICE. An Edict was launched on the platform of the State University Vale do Acaraú/UVA for knowledge of all schools

**STAGE 3**

There were visits to the CREDEs and visits in some municipalities. Thus, contact with teachers boosted the activities.

**STAGE 4**

During the launch of the Notice and during the activities, there were joint meetings with the work team of the Universities: UVA and UECE. There was displacement of the team with face-to-face participation.

**RESULTS:**

The projects received were defined and distributed in the thematic axes.

<b>PARTICIPATING SCHOOLS IN THE IV UVA SCIENCE FAIR PROPOSALS DEFERRED - EARTH AXIS</b>			
<b>SCHOOL</b>	<b>TEACHER/STUDENTS</b>	<b>MUNICIPALITY</b>	<b>PROJECT</b>

EEM Professora Rosa Martins Camelo Melo	<b>Teacher:</b> Jarbas de Negreiros Pereira <b>Students:</b> Gentil Ferreira de Sales Júnior; Ana Vitória de Sousa Araújo	Ibiapina	From pavement to heritage: Paleontological study of fossils used in civil construction in the city center of Tianguá (CE), Brazil
EEM Waldir Leopércio	<b>Teacher:</b> Marciane Castro do Nascimento <b>Students:</b> Anaely Faustino Ribeiro; Emille Ximenes Borges de Melo; Jordanna da Silva Moraes	Varjota	Cartography as a form of inclusion: tactile map of the school's surroundings
EEEP Gerardo José Dias de Loiola	<b>Teacher:</b> Francisco Elitom Rodrigues da Silva <b>Students:</b> Francisco Rian Lira Ferreira; Evelyn Albuquerque Melo	Forquilha	Teaching geography and perception of nature in the semi-arid
EEM de Irauçuba	<b>Teacher:</b> Viviane Lutfi Pinto <b>Students:</b> Luan Lopes Batista; Marcos Aurélio Braga Vasconcelos Júnior	Irauçuba	The use of solar kinetic energy in the water desalination process
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> Ariane de Paula dos Santos; Cleisla Kailane Sousa Costa	Itarema	Environmental impact that microplastics cause on coconut tree growth in the city of Itarema
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> João Veríssimo de Souza Filho; Wabner Lopes Gomes; Ana Kayla do Nascimento Dias	Itarema	Marine phater is a new solution for the production of mangrove seedlings for reforestation
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Helaine Cristina Nascimento dos Santos <b>Students:</b> Kammilly Vitória Araújo Aguiar; Francisco Moisés Lima do Nascimento	Itarema	Construction and use of a low-cost wind turbine to meet the needs of needy families in the Itarema region
College Dona Marieta Cals	<b>Teacher:</b> Antônia Geovânia Rodrigues do Nascimento <b>Students:</b> Antônio Gabriel Rocha Gerônimo; Maria Vitória Pereira Marçal	Cariré	Brazilian semi-arid: Caatinga and its complexities
Doutor José Euclides Ferreira Gomes Júnior	<b>Teacher:</b> José Nelson do Nascimento Neto <b>Students:</b> Ana Maria Pereira Ferreira; José Wellington Sales Barbosa; Adilto Melo Paiva	Sobral	Deep wells in the Jordan Mountain Range, Sobral (CE)
EEF Ester Dantas de Castro	<b>Teacher:</b> Carlos Daniel Rodrigues da Silva <b>Students:</b> Tiago de Castro Silva; Celiane Veríssimo Ribeiro	Cascavel	The use of banana peel ( <i>Musa acuminata</i> ) for the production of homemade candies and introduction into school feeding

EEM Gov. Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Francisca Antônia da Silva <b>Student:</b> Yasmim Santos Matos	Quixadá	Eco-sustainable pedagogical garden
College Estadual Otacílio Mota	<b>Teacher:</b> Antônio Ronaldo de Paiva Moura <b>Teacher:</b> Francisco Samuel Gomes de Araújo <b>Students:</b> Antônio Janderson de Sousa Lima; Pedro Henrique Barros Aragão	Ipueiras	Low cost weather station as an interdisciplinary practice instrument at the State College Otacílio Mota in Ipueiras-CE

**PARTICIPATING SCHOOLS IN THE IV UVA SCIENCE FAIR PROPOSALS  
DEFERRED - HUMAN AXIS**

SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EMEIF 29 de agosto Professora Maria Elielza Pinheiro Guerra	<b>Teacher:</b> João Pereira da Silva <b>Students:</b> Cleitom Queiroz Ferreira; Everton Arruda Aquino; Maryana Aparecida Saldanha Pinheiro	Jaguaretama	The use of duolingo as a learning tool in English language classes
EEM Waldir Leopércio	<b>Teacher:</b> Inara Alves de Oliveira <b>Students:</b> Pedro Lucas Soares; Evelyn Alves Miranda; Caio Henrique de Sousa Paiva	Varjota	Other images in history teaching
EEEP Gerardo José Dias de Loiola	<b>Teacher:</b> Francisco Elitom Rodrigues da Silva <b>Students:</b> Maria das Graças Alves Sousa; Diemíson Caxias Torres	Forquilha	Religion as a social institution in the secular state
EEM Grijalva Costa	<b>Teacher:</b> Márcio Roberto Felisbino dos Santos <b>Students:</b> Antônia Jailra Silva de Carvalho; Viviane Alves da Silva; Beatriz de Araújo Sousa	Ubajara	Breaking the silence
EM José Cláudio de Araújo	<b>Teacher:</b> Ana Cristina Azevedo Lima; <b>Teacher:</b> Sara Heline Rodrigues de Brito Silva <b>Students:</b> Carlene Rodrigues da Silva; Mateus Alves Azevedo; Sthefany Lima Damasceno	Mucambo	Rethinking the city
	<b>Teacher:</b> Sara Heline Rodrigues de Brito Silva; <b>Teacher:</b> Antônia Helaine Veras Rodrigues	Mucambo	The participation of "São Paulo migrants" in the socio-



EM José Cláudio de Araújo	<b>Students:</b> Antônia Naryele Oliveira Aguiar; Antônia Thila Carvalho Aguiar; Ana Léia Souza Lima		spatial transformation of the city of Mucambo - CE
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Maria Rosane da Cruz <b>Teacher:</b> Marcelo Damasceno Fonseca <b>Students:</b> Layane Vitória da Silva; Maria Naiara Silva Ribeiro	Itarema	Socioeconomic impacts generated by the rain action in the Lagoa Seca neighborhood in the city of Itarema
Escola Dona Marieta Cals	<b>Teacher:</b> Antônia Geovânia Rodrigues do Nascimento <b>Students:</b> Laura Aguiar Rocha; Hellen Beatriz Martins Braga	Cariré	The vision of feminism at school E.E.M Dona Mareta Cals
Escola Antônio Custódio de Azevedo	<b>Teacher:</b> Analine Maria Martins Parente <b>Students:</b> Lyandra Lumara Silva da Cruz; Ana Clarice Aguiar Albuquerque; Francisco Leonan Feitoza Moreira	Sobral	Feel to learn: tactile map for visually impaired
EEMTI Valdo Vasconcelos Rios	<b>Teacher:</b> Antônio Joceli de Araújo <b>Teacher:</b> Antônio Carlos da Silva <b>Students:</b> Maria Samara da Conceição; Letícia Freitas da Silva	Itarema	Literature, art and the use of social media to cope with socio-emotional problems at EEMTI Valdo de Vasconcelos Rios
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Sitônio Coelho Miranda <b>Teacher co-advisor:</b> Mairton Aires Brandão <b>Students:</b> Laura Anísia de Oliveira Neta; Ana Cristina dos Santos Souza	Itarema	Our every day carnaubeira
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Sitônio Coelho Miranda <b>Teacher co-advisor:</b> Maria Rosane da Cruz <b>Students:</b> Emanuel Nazareno Costa Rodrigues; Lucas Sousa da Silva	Itarema	Apology to the donkey
EEMTI Valdo Vasconcelos Rios	<b>Teacher:</b> Uggo Lyvio Silva Fontenele <b>Students:</b> Júnior do Nascimento Santos;	Itarema	Reasons for the high infrequency index at EEMTI Valdo de Vasconcelos Rios

	Leide Luana de Oliveira; Ana Hillary Silva Saraiva		
EEMTI Valdo Vasconcelos Rios	<b>Teacher:</b> Maria Leila de Sousa <b>Students:</b> José Vitor de Andrade Santos; Kailane do Nascimento Araújo; Isabelle dos Santos Costa	Itarema	Bullying: a joke that must be taken seriously
EEMTI Marconi Coelho Reis	<b>Teacher:</b> Iara Valente do Nascimento Nogueira <b>Students:</b> Bruna Estfan Pereira dos Santos; Lucas Benício Lima	Cascavel	Malcozinhado, from the river of the cooking mastery of the Carnijós Indians to the hardness of drought by environmental education and sustainable management for all of us
EEEP Leonel de Moura Brizola	<b>Teacher:</b> Erasmo Fernandes Nobre <b>Students:</b> Luiz Henrique da Silva Cavalcante; Victor Daniel Costa da Silva	Fortaleza	Skeed: a social network as a pedagogical resource for high school
EEM Governador Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Sônia Maria dos Santos Silva <b>Students:</b> Maria Katiania da Silva do Nascimento; Maria Pricilla Sousa Silva	Quixadá	Inclusion in school: Inform to raise awareness
EEM Maria Neusa Araújo Moura	<b>Teacher:</b> Zacarias da Ponte Soares <b>Students:</b> Kaio Freires Duarte; Francisco Leandro Rodrigues Andrade; José Juliano Alves Rodrigues	Santa Quitéria	Me and politics: experience report on youth protagonism
EEEP Leonel de Moura Brizola	<b>Teacher:</b> Erasmo Fernandes Nobre <b>Students:</b> Letícia Bezerra de Abreu; Marcelo Fernandes Linhares	Fortaleza	Smartphone: strategies to reduce misuse
EEM José Cláudio Araújo	<b>Teacher:</b> Sara Heline Rodrigues de Brito Silva <b>Teacher:</b> Breno de Abreu Lopes <b>Students:</b> Ana Taís do Nascimento Aquino; Erick Melo de Oliveira; Ana Vitória do Nascimento Silva	Mucambo	Disassembly of photographs and videos in geography classes
	<b>Teacher:</b> Vanderlúcia Gomes de Sousa		

Liceu de Tianguá José Ni Moreira	<b>Teacher:</b> Vera Lúcia Peres da Silva <b>Students:</b> Laiane da Conceição Nascimento; Lucas Araújo do Nascimento; Felipe Augusto Araújo	Tianguá	Welfare game: retire or not? here's the question
Liceu de Tianguá José Ni Moreira	<b>Teacher:</b> Vanderlúcia Gomes de Sousa <b>Teacher:</b> Vera Lúcia Peres da Silva <b>Students:</b> Camile Vitória Vieira de Araújo; Vitória Melo da Silva; Ana Dávilla Araújo Alves	Tianguá	Talking women: empowerment at school is necessary
EEM Wilebaldo Aguiar	<b>Teacher:</b> Fábio da Silva Oliveira <b>Resident:</b> Gotardo Alves de Almeida Neto <b>Students:</b> Pedro Marcilio Silva Furtuna; Sthefany Grazielle Ferreira do Nascimento; Mateus Severiano Vasconcelos	Massapê	Psychosomatic diseases at school
EEM Wilebaldo Aguiar	<b>Teacher:</b> Raquel Salvino Fernandes <b>Teacher:</b> Maria Thays Menezes Silva <b>Students:</b> Gustavo Batista Dias; Victória Virna Furtado do Nascimento; Mauro Jorge Arruda Filho	Massapê	Tactile maps as a way of inclusion in the geography classes of E.E.M Wilebaldo Aguiar in the city of Massapê-CE
EEM Governador Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Auricélia de Vasconcelos Lima Monte <b>Students:</b> Geiciele Campos da Silva	Quixadá	Dance of São Gonçalo
Escola Dr. José Euclides Ferreira Gomes Júnior	<b>Teacher:</b> José Nelson do Nascimento Neto <b>Students:</b> Ana Eloisy de Sousa Viana; Maycon da Silva Oliveira; Marcos Vinícius da Silva Venuto	Sobral	The importance of the dam for the community of Jordão, Sobral (CE)
EEMTI Professor Joaquim Francisco de Sousa Filho	<b>Teacher:</b> Marcélia Vieira Torres <b>Students:</b> Brenda Vitória Souza de Oliveira; Maria Eduarda Santos	Fortaleza	School: space to collect and disseminate attitudes.

EEEP Rosângela Albuquerque de Couto	<b>Teacher:</b> Mairton Aires Brandão <b>Teacher:</b> Sitônio Coelho Miranda <b>Students:</b> Viviane Martins Viana Amanda de Freitas Eufrásio	Itarema	Itarema: from fish pens to flour.
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PARTICIPATING SCHOOLS AT THE IV UVA SCIENCE FAIR PROPOSED			
DEFERRED - AXIS LIFE			
SCHOOL	TEACHER/ STUDENTS	MUNICIPALITY	PROJECT
EEM Instituto Imaculada Conceição	<b>Teacher:</b> Elifábio Sobreira Pereira <b>Students:</b> Antônio Breno da Silva Sales; João Pedro Carneiro Pinheiro; Vitória Shárgilla Saldanha Oliveira	Jaguaretama	The bean syrup for biological control
EEM Waldir Leopércio	<b>Teacher:</b> Nagiane Muniz Freitas <b>Students:</b> Davi Rodrigues da Silva; Hellen Barbosa de Paula; Jasiel Lima Gomes	Varjota	Microbiologando: Knowing to prevent
EEEP Professora Rosangela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> Valéria Martins Carneiro; Vitória Helen dos Santos Pereira	Itarema	Venomous arachnid: analysis of the risk potential of scorpion species in Ceará
EEEP Professora Rosangela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> Ana Karolaine de Medeiros Alves; Lizandra de Fátima Ladislau Aguiar	Itarema	An alternative ration with Calotropis procera and Opuntia ficus- indicates: a viable solution for small breeders of the semi-arid
EEEP Professora Rosangela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> Francisco Victor dos Santos Sousa; Jéssica Beatriz Silva Souza; José Armando Júnior do Nascimento	Itarema	The use of medicinal herbs for the treatment and prevention of diseases by tremembés peoples

EMEIF 29 de agosto Professora Maria Elielza Pinheiro	<b>Teacher:</b> Elifábio Sobreira Pereira <b>Students:</b> Alyne Yorone Andrade de Lira; Flávia Cristina da Silva Peixoto; Pedro Arcanjo Silva Lima	Jaguaretama	Candle with citronella essence as an efficient method for the endemic combat of mosquitoes
EEM Olímpio Sampaio da Silva	<b>Teacher:</b> Francisco Ferreira de Sousa Filho <b>Students:</b> Kauane Ferreira da Silva; Luma de Oliveira Souza; Renara de Lima Barros	Uruoca	Geopracticing: a contribution to the learning of geographic knowledge in the context of the semi-arid landscape
EMEF José Brandao de Albuquerque	<b>Teacher:</b> Elineuma Pereira da Silva <b>Students:</b> Francisca Juliana Teixeira; Ana Francisca da Silva Pereira	Jijoca de Jericoacoara	Healthy eating on the go
EEM Francisca Pinto dos Santos	<b>Teacher:</b> Luís Carlos dos Santos <b>Students:</b> Maria Helen da Silva Mendes; Francisco Márcio Santos de Souza Júnior	Ocara	Agroforestry system as a food strategy in the Caatinga biome
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Emanuel Ágner do Nascimento Alves <b>Students:</b> Francisco Edvan Santos Araújo; José Davi Silva	Itarema	Drugs, out of school and life
EEF Ester Dantas de Castro	<b>Teacher:</b> Carlos Daniel Rodrigues da Silva <b>Students:</b> Ariadna Lopes da Silva Florêncio; Maria Suiane de Sousa	Cascavel	Centrobio: the use of citronella ( <i>Cymbopogon winterianus</i> ) in the production of natural repellent: a new approach in the community
EEM Gov. Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Francisca Antônia da Silva <b>Students:</b> Maria Lívia Freire de Lima; Marilene da Silva Souza	Quixadá	Salt grass: a multifunctional plant
EEF Choró Vaquejador	<b>Teacher:</b> Ozeias de Paula Oliveira	Cascavel	JERINUTRI 2.0 - Production of natural biscuits from the flour of jerimum seeds ( <i>Curcubita</i> spp)



	<b>Students:</b> Felipe Pereira Barbosa; Matheus de Lima Silva		
Centro Educacional Municipal	<b>Teacher:</b> Maria Vitória Ferreira de Menezes <b>Students:</b> Ramom Silva de Oliveira; Carliane Meireles Barbosa de Souza	Cascavel	Natural termite-fighting pesticide (Isoptera)
Colégio Cascavelense	<b>Teacher:</b> Anilton Nogueira de Matos Filho <b>Students:</b> Karina Correia de Araújo; Kauã Silva Pereira	Cascavel	Mescaet: The processing of the use of Melon from São Caetano (Momordica charantia) to the production of handmade soap in the treatment of wounds and itching in animals
EMTI Joaquim Francisco de S. Filho	<b>Teacher:</b> André Luís Bezerra da Silva Brasilino <b>Students:</b> Pedro Lucas Rodrigues Santiago; Tainá Martins da Silva; Francisca Thayná Freire Rodrigues	Fortaleza	Antifungal potential of natural extract
EEM Almir Pinto Ocara	<b>Teacher:</b> Amarildo Pereira da Silva <b>Student:</b> Steve dos Santos Lima	Ocara	Live pharmacies at school
EEM Florestam Fernandes	<b>Teacher:</b> Marcos Antônio Pereira da Silva <b>Students:</b> Elca da Luz da Silva; Francisco Evanilson da Luz Pereira; Maria Tainara da Luz Costa	Monsenhor Taboza	Arapoã
EEFM Professor Arruda	<b>Teacher:</b> Francisco Mário Nascimento Meneses <b>Students:</b> José Rennan Santos Viana Fernandes; Marcos André Rodrigues dos Santos; Kildere Siqueira Miranda	Sobral	Effect of aqueous extract of Jucá (Libidibia ferrea) plant native to Caatinga on lettuce germination (Lactuca sativa)
EEFM Professor Arruda	<b>Teacher:</b> Elomir Brito Mourão	Sobral	

	<b>Students:</b> Francisco Samuel Alves; Ismael Kennedy Silva Liberato; Deyson Dayllon Lima dos Santos		The use of didactic models in the teaching of human anatomy of biology classes in the initial grades of high school
EEF Choró Vaquejador	<b>Teacher:</b> Ozeias de Paula Oliveira <b>Students:</b> Gleucivan Alves de Oliveira; Thalia Lima Marçal	Cascavel	Natural facial scrub
EEF Choró Vaquejador	<b>Teacher:</b> Ozeias de Paula Oliveira <b>Students:</b> Natália Carneiro Rebolças; Sâmia de Paula Saraiva	Cascavel	Passion fruit peel flour
EEM Governador Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> João Paulo Pereira Ribeiro <b>Students:</b> Francisco Emanuel Braga Silva; Carlos Eduardo Farias Moreira	Quixadá	Dialoguing sexuality
EEM Governador Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Francisca Reginária Gomes Lima <b>Students:</b> Rodrigo Nobre de Lima; Erique Bento Sabino; Antônio Robério Saraiva Maciel Filho; Maria Clara De Almeida Lopes	Quixadá	The use of cannabis in clandestine folk medicine

PARTICIPATING SCHOOLS AT THE IV UVA SCIENCE FAIR PROPOSED			
DEFERRED - ENVIRONMENTAL AXIS			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EEM Waldir Leopércio	<b>Teacher:</b> Nagiane Muniz Freitas <b>Students:</b> Caio Levi Farias Martins; Kael Yucan Brandão Camelo; Maura Letícia Bastos Viana	Varjota	Digestive system: a didactic proposal in science teaching
	<b>Teacher:</b> David Torres de Souza		

EEM Goersch	Elza	<b>Students:</b> Fátima Darlene de Souza; João Manoel Neres de Sousa; Anna Margarida de Sousa Agostinho	Forquilha	Production of recyclable paper for use as information allocated in the school environment
EEM Pinto dos Santos	Francisca	<b>Teacher:</b> Francisco Leandro Santos Dantas <b>Students:</b> Gabriel Cosme Maia	Ocara	Mini semi-automatic dechestnut: a possibility for cashew dechestnut
EEM de Irauçuba		<b>Teacher:</b> Fabrício Mota Gonçalves <b>Students:</b> Ana Beatriz Guilherme Santana; Maria Emylli Gomes da Silva	Irauçuba	Integrated environmental monitoring and augmented reality (SIMARA)
EEM Goersch	Elza	<b>Teacher:</b> Abidão Bezerra Camelo Neto <b>Students:</b> Breno Caxias Júlio; Thágilla Irys Loiola Magalhães	Forquilha	Medicinal plants in school: rescuing values and assisting in environmental preservation
EMEF Brandão Albuquerque	José de	<b>Teacher:</b> Osmalene Mayara de Souza <b>Students:</b> Iara Vivian Sousa Pinto; Iago Ferreira da Silva Mota	Jijoca de Jericoacoara	Aquaponic garden: a sustainable alternative for the consumption of organic food
EMEF Brandão Albuquerque	José de	<b>Teacher:</b> Osmalene Mayara de Souza <b>Students:</b> Francisca Lívia Dias Nascimento	Jijoca de Jericoacoara	Recycle to transform
EMEF Brandão Albuquerque	José de	<b>Teacher:</b> Elineuma Pereira da Silva <b>Students:</b> Danilo Araújo de Sousa; Talia Silva de Carvalho	Jijoca de Jericoacoara	Reciclarts
EEM Pinto dos Santos	Francisca	<b>Teacher:</b> Luís Carlos dos Santos <b>Students:</b> Maria Darlane de Sousa Barros; Glória Maria Carlos de Castro	Ocara	Use of hydrogel as a water alternative for fruit trees in the caatinga biome, from a sustainable perspective
Escola Marieta Cals	Dona	<b>Teacher:</b> Antônia Geovânia Rodrigues do Nascimento <b>Students:</b> Maria Gabriela Mesquita do Nascimento;	Cariré	Google Earth as a study tool for degraded areas of the semi-arid state of Ceará

	Joyce Simões de Aguiar de Oliveira		
Liceu de Tianguá José Ni Moreira	<b>Teacher:</b> Nildemar Pereira da Silva <b>Teacher:</b> Vera Lúcia Pires da Silva <b>Students:</b> Antônio Carlos da Silva Mendonça; Camile Rocha Silva; Alan Henrique dos Santos Nascimento	Tianguá	Environmental education: Sustainable vegetable garden in school
EEM Plácido Aderaldo Castelo	<b>Teacher:</b> Antônio Edson de Abreu Araújo <b>Teacher:</b> Louricélia Rodrigues de Abreu <b>Students:</b> Gessiane de Mesquita Almeida; Lucas Ximenes de Brito; Lucynara Gonçalves Lopes	Pacujá	Interactive interval: scientific initiation as a basic element in teaching learning
EEF Boa Água	<b>Teacher:</b> Valcidélia Brasil Brindeiro <b>Students:</b> Francisco Sávio de Moura Lima; Raquécia da Silva Torres	Cascavel	Natural liquid biofertilizer: agriculture at your fingertips
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Maria Rosane da Cruz <b>Teacher:</b> Kayami Krishna de Mello Godoy <b>Students:</b> José de Anchieta do Nascimento Albano; José Daniel de Souza	Itarema	Technology and environment: application development for environmental complaints in Guajirú Island- Itarema- CE
EEEP Gerardo José Dias de Loiola	<b>Teacher:</b> Antônio Francisco de Sousa. <b>Students:</b> Kauan da Silva Felício; Maria Clara Braga Souza	Forquilha	Hydroalcoholic extract of holy grass ( <i>Cymbopogon citratus</i> ) as repellent against the <i>Aedes Aegypti</i> mosquito
EEM Padre José Augusto Régis Alves	<b>Teacher:</b> Antônio Marcos Duarte Mota <b>Students:</b> Graziana Saldanha de Freitas; Évilla da Silva Bezerra; Danielly Samilly da Silva	Jaguaretama	School Lunch: Zero Waste

EEEP Dário Catunda Fontenele	<b>Teacher:</b> Ana Jessyca Alves Morais <b>Students:</b> Maria Yohane de Oliveira Moreira; Ana Beatriz Doroteu Costa; Francisco Nélio Sampaio de Souza	Ipueiras	Microbiology in daily life: informative and preventive actions on pathologies that affect society
EEM Florestam Fernandes	<b>Teacher:</b> Marcos Antônio Pereira da Silva <b>Students:</b> Antônio Ísaías Gonçalves da Silva; Francisco Jonatam de Sousa Melo; Pablo do Santos Barbosa	Monsenhor Tabosa	Production of the green matter of Moringa Oleífera Lam under different heights of cuts consorted with the Forage Palm cultivar giant cultivate
EEM Francisca Pinto dos Santos	<b>Teacher:</b> Francisco Dian de Oliveira Ferreira <b>Student:</b> Guilherme de Abreu Alves	Ocara	Reduction of waste of water resources in the cultivation of vegetables through an irrigation system
EEM Francisca Pinto dos Santos	<b>Teacher:</b> Francisco Dian de Oliveira Ferreira <b>Student:</b> Graciela Carlos da Silva	Ocara	Development of a low-cost electronic system to assist the locomotion of the visually impaired
EEM Wilebaldo Aguiar	<b>Teacher:</b> Luiz Carlos Marques Costa <b>Researcher:</b> Breno de Abreu Lopes <b>Student:</b> Lucas vale de Oliveira; Benedita Hilce de Paula Silva; Marcos Emanuel da Silva Soares	Massapê	Environmental perception and water resources in the semi-arid: Analysis of the Acaraú Mirim reservoir, Massapê-CE
EEF Fransquinho Camilo da Silva	<b>Teacher:</b> Lucas Israel Evaristo da Silva <b>Students:</b> Maria Eduarda Costa Maciel; Hívyana Silva Miranda	Cascavel	Compact: sustainable ceramic block made from bivalve shells
EEM Gov Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> João Paulo Pereira Ribeiro <b>Students:</b> Luís Guilherme Xavier da Silva; Victor Ramón Anselmo Costa	Quixadá	Entomology and 5R's in partnership



EEF Rodrigues Sousa Cosme de	<b>Teacher:</b> Gilvânia Medeiros Sampaio <b>Students:</b> Antônio Robson do Carmo; Antônio Rafael França de Sousa; Kaic Gomes de Araújo	Carnaubal	the challenge of combating plastic pollution by producing sustainable bio straws
EEF Rodrigues Sousa Cosme de	<b>Teacher:</b> Gilvânia Medeiros Sampaio <b>Students:</b> Yohanna Ingrid Barros Miranda; Thais Brito Assis; Bianca Rodrigues Martins	Carnaubal	Sustainable and edible vermifuge: herbal capsules with the melon seed of São Caetano and its natural efficacy against verminosis
EEMTI Vasconcelos Rios Valdo	<b>Teacher:</b> Francisco Ageu Ribeiro do Nascimento <b>Students:</b> Carlos Eduardo Araújo de Freitas; Lídia Carmem Marques Pereira; Luís Miguel dos Santos Couto	Itarema	Know to preserve the native plants of the caatinga of the community of São Vicente, Itarema-CE.
EEM Aguiar Wilebaldo	<b>Teacher:</b> Luiz Carlos Marques da Costa <b>Teacher:</b> Eloísa Rocha Queiroz <b>Students:</b> Luiza Suane Araújo da Silva; Mailane Feijão Rodrigues; Wesley Coelho Simplício	Massapê	Survey of the sources of water supply of students from E. E. E. .M. Wilebaldo Aguiar in Massapê-CE.
EEEP Albuquerque de Couto Rosângela	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> Bianca de Sena Sousa; Eduarda Almeida de Freitas	Itarema	The environmental impact of deforestation of carnaúba (Copernicia prunifera) in Itarema.
EEM Aderaldo Castelo Plácido	<b>Teacher:</b> Ana Cristina Azevedo Lima <b>Teacher:</b> Patrícia Alves da Silva <b>Students:</b> Francisco Leonardo Abreu Rodrigues; Maria Larissa de Castro Sousa; Carlos Gean Alves Bengaly	Pacujá	Natural resources: exploitation from world to site
EEM Goersch Elza	<b>Teacher:</b> David Torres de Souza <b>Students:</b> Francisco Leonardo da Silva Araújo	Forquilha	Burned: identification of places as a tool for the awareness and reduction plan.

PARTICIPATING SCHOOLS AT THE IV UVA SCIENCE FAIR PROPOSED			
DEFERRED			
PURE AXIS			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EEFM Ministro Jarbas Passarinho	<b>Teacher:</b> Jamile Gomes de Sousa <b>Resident:</b> Mateus dos Santos Moura <b>Students:</b> Carlos Eduardo Alves Vasconcelos; Marcos Henrique da Silva Marcelino; Mateus de Lima Rodrigues	Sobral	Analysis of natural products for heartburn relief
EEFM Ministro Jarbas Passarinho	<b>Teacher:</b> Jamile Gomes de Sousa <b>Resident:</b> Doralice Rodrigues de Lima <b>Students:</b> Ana Karolaine da Silva Santos; João Mateus Ferreira Gil; Carla Eduarda Brito Moura	Sobral	The chemistry of organic cosmetics
EEFM Ministro Jarbas Passarinho	<b>Teacher:</b> Jamile Gomes de Sousa <b>Resident:</b> Elielson Souza Araújo <b>Students:</b> Técio Martins Mesquita; Matheus Victor Batista; Antônio Diogo Gomes Cruz	Sobral	Aromatherapy and the therapeutic properties of essential oils
EEEP Ícaro Moreira de Sousa	<b>Teacher:</b> Francisco José Mendes dos Santos <b>Teacher:</b> Marcélid Berto da Costa <b>Students:</b> Kailanne Peixoto vieira; Bernarda Egilene Alves de Araújo	Fortaleza	Interactive electrochemistry game: a socio-educational strategy for saving electricity
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Helaine Cristina Nascimento dos Santos <b>Students:</b> Josiane Paiva da Silva; Livia Albuquerque de Santana	Itarema	Production and use of Biomethane as a source of renewable energy in order to meet energy needs of the EEEP School Professor Rosângela Albuquerque de Couto and of

			needy communities in the city of Itarema - CE
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Helaine Cristina Nascimento dos Santos <b>Students:</b> Luana Nonato Santos de Sousa; Stefany de Sousa Miranda	Itarema	Astrophysics for the hurried: a new perspective, a new vision and a new horizon
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Kayami Krishna de Mello Godoy <b>Students:</b> Franciel Silveira Penha de Vasconcelos; Pedro Victor de Menezes da Silva; Victor Emanuel Brandão dos Santos	Itarema	Automated monitoring of artesian wells
EEF Dep. José Corrêia Pinto	<b>Teacher:</b> Lucas Israel Evaristo da Silva <b>Students:</b> Ana Vieira Martins Reche; Pedro Lázaro Dantas Costa	Cascavel	BioPiper: Biodegradable Canude
Colégio Cascavelense	<b>Teacher:</b> Anilton Nogueira de Matos Filho <b>Students:</b> Helivelton Felício de Miranda; José Kauan Pereira Aureliano	Cascavel	A.L..A - The use of Calcareous Algae to correct the pH of semi-arid soil
EEM Maria Marina Soares	<b>Teacher:</b> João Ribeiro da Costa <b>Students:</b> Antônia Jéssica Sousa Ribeiro; Luiz Henrique Rodrigues Soares; Pamela Bernabé de Sousa	Guaraciaba do Norte	Facilities for the home: building a water level indicator
EEFM professor Arruda	<b>Teacher:</b> Francisco Edilson Gomes Clímaco <b>Students:</b> Gisele do Nascimento Dourado; Francisco Mateus Cunha da Silva; Emanuella Pereira Araújo	Sobral	Reviving the 1919 Eclipse of Sobral with the help of a low-cost Planetarium
EEFM professor Arruda	<b>Teacher:</b> Evódia Pires Lopes <b>Students:</b> Maria Eduarda Mesquita Alves; Antônio Hugo de Sousa Bezerra; Antônio Gerdan Aguiar Sales Pereira	Sobral	Math Club: a way to learn and teach mathematics
EEFM Ministro Jarbas Passarinho	<b>Teacher:</b> Jamile Gomes de Sousa <b>Resident:</b> Edimara Freire Bezerra	Sobral	Chemistry and sustainable development

	<b>Students:</b> Igor Cunha Soares; Manoel Vitor Silva de Sousa		
EEF Fransquinho Camilo da Silva	<b>Teacher:</b> Lucas Israel Evaristo da Silva <b>Students:</b> Monique Santos Ramires; Estefani Miranda Silva	Cascavel	UPAN - The popular use of Pau Ferro ( <i>Caesalpinia leiostachya</i> ) from the community of Tijucussu I for the treatment of Anemia
EEM Governador Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Maria de Nazaré Sousa Freires <b>Students:</b> Carlos Moisés Santos Viana; Paula Giovanna Pinheiro de Queiroz; Sara Mikaely do Carmo Silva	Quixadá	The chemistry of depression
EEM Governador Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Auricélia de Vasconcelos Lima Monte <b>Students:</b> Larissa da Silva Freitas	Quixadá	Talent fair - motivational action for youth protagonism
EEEP Dário Catunda Fontenele	<b>Teacher:</b> Mairla de Paiva Sousa <b>Students:</b> Victor Gomes Masciel; Juan da Silva Sousa	Ipueiras	An experience report: The construction of a pet bottle rocket as a form of didactic-pedagogical intervention in physics teaching

#### 6th STAGE - Presentation of projects

The presentation of the works carried out at the State University of Vale do Acaraú/UVA, was attended by the Pro-Rector of Graduation, Pro-Rector of Extension and Direction of the Center for Humanities.

The presentation of the works carried out at the State University of Ceará, had the participation of the Pro-Rector of Graduation, Pro-Rector of Extension and Coordination of Courses.



#### FINAL CONSIDERATIONS

The following are the selected projects and their respective researchers to receive a scientific initiation scholarship Jr from CNPq

HUMAN AXIS			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
Escola Antônio Custódio de Azevedo	<b>Teacher:</b> Analine Maria Martins Parente <b>Students:</b> Lyandra Lumara Silva da Cruz; Ana Clarice Aguiar Albuquerque; Francisco Leonan Feitoza Moreira	Sobral	Feel to learn: tactile map for visually impaired
EEM Wilebaldo Aguiar	<b>Teacher:</b> Raquel Salvino Fernandes <b>Teacher:</b> Maria Thays Menezes Silva <b>Students:</b> Gustavo Batista Dias; Victória Virna Furtado do Nascimento; Mauro Jorge Arruda Filho	Massapê	Tactile maps as a way of inclusion in the geography classes of E.E.M Wilebaldo Aguiar in the city of Massapê-CE
EEMTI Valdo Vasconcelos Rios	<b>Teacher:</b> Antônio Joceli de Araújo <b>Teacher:</b> Antônio Carlos da Silva <b>Students:</b> Maria Samara da Conceição; Letícia Freitas da Silva	Itarema	Literature, art and the use of social media to cope with socio-emotional problems at EEMTI Valdo de Vasconcelos Rios
Liceu de Tianguá José Ni Moreira	<b>Teacher:</b> Vanderlúcia Gomes de Sousa <b>Teacher:</b> Vera Lúcia Peres da Silva <b>Students:</b> Laiane da Conceição Nascimento; Lucas Araújo do Nascimento; Felipe Augusto Araújo	Tianguá	Welfare game: retire or not? here's the question Teacher

ENVIRONMENTAL AXIS			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EEM Francisca Pinto dos Santos	<b>Teacher:</b> Francisco Dian de Oliveira Ferreira <b>Student:</b> Guilherme de Abreu Alves	Ocara	Reduction of waste of water resources in the cultivation of vegetables through an irrigation system
EEM Francisca Pinto dos Santos	<b>Teacher:</b> Francisco Dian de Oliveira Ferreira <b>Student:</b> Graciela Carlos da Silva	Ocara	Development of a low-cost electronic system to assist the locomotion of the visually impaired
EEM Francisca Pinto dos Santos	<b>Teacher:</b> Francisco Leandro Santos Dantas <b>Student:</b> Gabriel Cosme Maia	Ocara	Mini semi-automatic dechestnut: a possibility for cashew dechestnut
EEF Cosme Rodrigues de Sousa	<b>Teacher:</b> Gilvânia Medeiros Sampaio <b>Students:</b> Yohanna Ingrid	Carnaubal	Sustainable and edible vermifuge: herbal capsules with the melon



	Barros Miranda; Thais Brito Assis; Bianca Rodrigues Martins		seed of São Caetano and its natural efficacy against verminosis
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EARTH AXIS			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EEM Gov. Luiz Gonzaga da Fonseca Mota	<b>Teacher:</b> Francisca Antônia da Silva <b>Student:</b> Yasmim Santos Matos	Quixadá	Eco-sustainable pedagogical garden
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> João Veríssimo de Souza Filho; Wabner Lopes Gomes; Ana Kayla do Nascimento Dias	Itarema	Marine phater is a new solution for the production of mangrove seedlings for reforestation
Colégio Estadual Otacílio Mota	<b>Teacher:</b> Antônio Ronaldo de Paiva Moura <b>Teacher:</b> Francisco Samuel Gomes de Araújo <b>Students:</b> Antônio Janderson de Sousa Lima; Pedro Henrique Barros Araújo	Ipueiras	Low cost weather station as an interdisciplinary practice instrument at the State College Otacílio Mota in Ipueiras-CE
EEM de Irauçuba	<b>Teacher:</b> Viviane Lutfi Pinto <b>Students:</b> Luan Lopes Batista; Marcos Aurélio Braga Vasconcelos Júnior	Irauçuba	The use of solar kinetic energy in the water desalination process

AXIS LIFE			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EEFM Professor Arruda	<b>Teacher:</b> Francisco Mário Nascimento Meneses <b>Students:</b> José Rennan Santos Viana Fernandes; Marcos André Rodrigues dos Santos; Kildere Siqueira Miranda	Sobral	Effect of aqueous extract of Jucá ( <i>Libidibia ferrea</i> ) plant native to Caatinga on lettuce germination ( <i>Lactuca sativa</i> )
EMTI Joaquim Francisco de S. Filho	<b>Teacher:</b> André Luís Bezerra da Silva Brasilino <b>Students:</b> Pedro Lucas Rodrigues Santiago; Tainá Martins da Silva; Francisca Thayná Freire Rodrigues	Fortaleza	Antifungal potential of natural extract
EEFM Professor Arruda	<b>Teacher:</b> Elomir Brito Mourão <b>Students:</b> Francisco Samuel	Sobral	The use of didactic models in the teaching of human anatomy of

	Alves; Ismael Kennedy Silva Liberato; Deyson Dayllon Lima dos Santos		biology classes in the initial grades of high school
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Jardel Ribeiro Batalha <b>Students:</b> Ana Karolaine de Medeiros Alves; Lizandra de Fátima Ladislau Aguiar	Itarema	An alternative ration with Calotropis procera and Opuntia ficus- indicates: a viable solution for small breeders of the semi-arid

PURE AXIS			
SCHOOL	TEACHER/STUDENTS	MUNICIPALITY	PROJECT
EEFM Ministro Jarbas Passarinho	<b>Teacher:</b> Jamile Gomes de Sousa <b>Resident:</b> Doralice Rodrigues de Lima <b>Students:</b> Ana Karolaine da Silva Santos; João Mateus Ferreira Gil; Carla Eduarda Brito Moura	Sobral	The chemistry of organic cosmetics
EEEP Ícaro Moreira de Sousa	<b>Teacher:</b> Francisco José Mendes dos Santos <b>Teacher:</b> Marcélio Berto da Costa <b>Students:</b> Kailanne Peixoto vieira; Bernarda Egilene Alves de Araújo	Fortaleza	Interactive electrochemistry game: a socio- educational strategy for saving electricity
EEEP Professora Rosângela Albuquerque de Couto	<b>Teacher:</b> Kayami Krishna de Mello Godoy <b>Students:</b> Franciel Silveira Penha de Vasconcelos; Pedro Victor de Menezes da Silva; Victor Emanuel Brandão dos Santos	Itarema	Automated monitoring of artesian wells
EEFM Ministro Jarbas Passarinho	<b>Teacher:</b> Jamile Gomes de Sousa <b>Resident:</b> Edimara Freire Bezerra <b>Students:</b> Igor Cunha Soares; Manoel Vitor Silva de Sousa	Sobral	Chemistry and sustainable development

A book was produced in E-book with all projects approved at the IV Science and Scientific Exhibition of the State University Vale do Acaraú/UVA with the State University of Ceará/UECE. The book was made available to all teachers and students involved in the Science Fair.

**Apoio:** CNPq/CAPES/MEC/MCTIC/SEPED, process 439731/2018-6

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