Carefree Kiwanis Community Science Fair 2009 - 2010 Handbook

A Quick-Reference Guide for Teachers, Students and Parents

Last modified September 1, 2009

Last modified September 1, 2009

Carefree Kiwanis Community Science Fair Handbook
Table of Contents

Last modified September 1, 2009

1.0 Introduction

This Handbook is intended as a quick-reference guide for Teachers, Students and Parents who are planning to participate in the Kiwanis Community Science Fair. A science fair is generally a competition where students create a project related to science, mathematics, engineering, or a scientific phenomenon. The Science Education Committee of the Kiwanis Club of Carefree, who leads the planning and operation of the Fairs in the CCUSD region, prepared this Handbook. The Handbook is modular, covering each topic in a short section.

What is Kiwanis?
Kiwanis is a global organization of volunteers dedicated to changing the world, one child and one community at a time.

Carefree Kiwanis Vision
Kiwanis Club of Carefree will raise the level of interest in, and knowledge of, science and math in K-12 students in the Desert Foothills.

KSEC Mission
The mission of the Kiwanis Science Education Committee in our local area is to sponsor and champion Community Science Fairs, to mentor students and teachers, to work with teachers and parents, and to encourage Science Clubs at the schools.

The 2009-2010 School Year is the 5th year for the Kiwanis Fair. The first 4 years were very successful with a great many projects entered. This year, we plan to increase the participation and also encourage a higher level of scientific quality in each project. This Handbook is part of that "Search for Quality". Also, we plan Teacher Workshops, Student Mentoring, and Student briefings to assist that search.

There will be 3 levels of participation in Kiwanis Community Science Fair:

Elementary School, K - 5 grades
Middle School, 6 - 8 grades
High School, 9 - 12 grades

The rules and expectations for each level are different. Class Projects are allowed and encouraged in the Elementary Level, but not in the higher levels. In all levels, Individual and Team (2 or 3 students) entries are encouraged.

Kiwanis will coordinate two tiers of competition, Tier 1 and Tier 2. A Tier 1 Science Fair will be held at each school electing to participate. The entries selected from each participating school, as determined by the judges, will be invited to compete in Tier 2. The best entries in each category at the Tier 1 School Fair(s) and the Tier 2 Fair will be awarded prizes. It is expected that about 10% of projects in any given school Tier 1 Fair will be allowed to advance to Tier 2, depending on space available.

Only Inquiry Type projects can be entered. The approach for **Inquiry Projects** is based on the Scientific Method. These types of projects are described in The Scientific Method, Section 10 herein.

To enter a project in the Science Fair at your school, follow the directions in Section 4.0 herein, titled Applying to Enter a Project in a Tier 1 Fair. When you do this, it will be entered automatically into the Kiwanis Project Entry Database.

2.0 Dates and Deadlines

Each school is responsible for scheduling their own Tier 1 Fair. All Tier 1 Science Fairs should be completed no later than February 24, 2010. This will allow sufficient time for selected projects to enter the Arizona Science and Engineering Fair (AzSEF) and/or the Tier 2 Kiwanis Community Science Fair.

The AzSEF will be held March 22-25 at the Phoenix Convention Center. Application deadline for the 2010 AZSEF is Monday, March 1, 2010. Registration is done on-line at http://azsef.asu.edu

The Tier 2 Kiwanis Community Science Fair will be held on **March 7-11, 2010** at the Cactus Shadows Fine Arts Center (FAC). A detailed schedule is as follows:

Sunday, March 7th

- 1:00 – 4:00 FAC open for students and parents to bring in projects

Monday, March 8th

- 7:00 A.M. – 1:00 P.M. Fine Arts Center open for students and parents to bring in projects
- 1:00 P.M. – 4:00 P.M. Judging (Fair is closed to the public.)

Tuesday, March 9th

- 8:00 A.M. Judging continues, ribbons are placed on projects, notification to teachers, students and parents of all winners. (Fair is closed to the public on this day.)

Wednesday, March 10th (some details subject to change)

- 8:00 A.M. – 7:00 P.M. Fair is open to public
- 5:30 P.M. – 6:00 P.M. Awards ceremony for K – 5th grades
- 6:30 P.M. – 7:00 P.M. Awards ceremony for 6th – 12th grades
- All students may pick up projects after awards ceremony

Thursday, March 11th

- 8:00 A.M. - 12:00 Noon Students remove projects. All unclaimed projects will be discarded.

3.0 Participating Schools

All students who attend school or reside in the geographical region of the Cave Creek Unified School District may enter the Kiwanis Community Science Fair. The Foothills area schools that participated in the 2008-2009 Science Fairs were:

CCUSD Schools:

Cactus Shadows High School
Desert Arroyo Middle School
Sonoran Trails Middle School
Black Mountain Elem School
Desert Sun Elem School
Desert Willow Elem School
Horseshoe Trails Elem School
Lone Mountain Elem School

Other schools:

Bella Vista Private School
Dynamite Montessori
Foothills Academy College Prep
Ventana Academy

4.0 Applying to Enter a Project in a Tier 1 Fair

All applications for entering projects in any Tier 1 (local school) Science Fair will be done through the on-line data entry program. Instructions for filling out your science fair application using the on-line application data entry program are:

Go to the Cave Creek United School District website www.ccusd93.org

Scroll to the bottom of the page and click on the Science Fair microscope

You are now at the Community Education Science Fair page. Click on the text directly under the Science Fair Application microscope

Scroll down about ¼ page and select from the pull down the name of your school

Complete the remainder of the form

When you have completed the form click Agree to Terms & Send Now

Review the data on the screen. If it is correct, print the page and take it to your teacher. If the data is not correct, click the < back in the lower left corner of the page and reenter the data.

5.0 Kiwanis Rules, Regulations, and Hints

The Kiwanis Science Fair has ground rules to have fairness for everyone. Other activities in which you participate have ground rules. You are all familiar with the rules in sports. Basketball has "free-throws", Hockey has the "penalty box", and Baseball has "three strikes and you're out." The purpose of this Handbook is to lay out the ground rules for a successful scientific experiment.

In the 2009 – 2010 Community Science Fair both Tier 1 and Tier 2 competition will be grouped as follows:

- For K-2, 3, 4, and 5
  - Between projects entered by individuals in the same grade
  - Between projects entered by teams of 2 or 3 students in the same grade
  - Between classes
- For 6-12
  - Between projects entered by individuals or teams of 2 or 3 students in the same grade

General Guidelines.

- The project must be the work of the student(s) registered for the Science Fair.
- Each student/class/team /group should develop a research plan **before** the project is started. The plan should include methods or procedures to be followed
- All projects must follow the scientific method.
- A laboratory notebook, log, journal, or diary or report **is required** for each project. This documentation is very important in the judging process. A typical outline should include some or all (depending on the age of the student) of the following
  - DRAFT of the Question or Problem Statement
  - Research NOTES
  - BIBLIOGRAPHY details
  - Draft of HYPOTHESIS
  - Draft(s) of Experimental Procedure
  - List of Materials and Equipment
  - Raw Data Recording, with DATES
  - Other Results
  - Analysis and Evaluation notes
  - Conclusion DETAILS
  - THOUGHTS on Future Research and Experiments
- All projects must use the standard display board (see Section 10.0 for example)
- The display board layout should follow the scientific method
- The size of the exhibit must not occupy a space in excess of 30 inches deep- front to back: 24 inches wide –side-to-side; and 108 inches high – bottom to top.
- The name of the class, student(s), and/or school must **NOT** appear on the front of the project.
- A research paper or other relevant written materials may be displayed with the project.
- Students must demonstrate through written reports, pictures, charts, graphs, diagrams, and tables that research was accomplished.
- All exhibits should have a freestanding backdrop. No commercial models or kits should be allowed as exhibits.
- No live animals, preserved animal, dangerous chemicals, dangerous equipment, cell cultures, bacteria, molds, microorganisms, soil, mud, liquids (including water), and solvents may be exhibited at the fair, **without prior approval of the supervising teacher.**
- Only plants and/or animals that do not present any danger or possibility of harm to students, fair participants or the general public may be used in displays. It must be understood that plants and or animals must be able to thrive with minimal care for 4 days. It must also be understood that there will be no possibility of harm or discomfort to any plant or animal involved in a display.

6.0 Prizes and Awards

Tier 1 competition at each school.
Kiwanis cash prizes will be awarded as follows.

- For grades K-2, 3, 4 and 5
  - $30 cash to the best individual or team project(s) in each grade group.
  - $30 cash to the best class project at each school.
- For grades 6, 7 & 8
  - $45 cash to the best individual or team (of 2 or 3 students) project(s) in each grade.
- For grades 9, 10, 11 and 12
  - $60 cash to the best individual or team (of 2 or 3 students) project(s) in each grade.

These winners plus other top scoring projects at each Tier 1 Fair will be invited to compete in the Tier 2 Kiwanis Community Science Fair in March 2010. Additionally, some schools may provide their own Tier 1 awards for the best projects.

Tier 2 competition, Kiwanis Community Science Fair at the Fine Arts Center.
Kiwanis cash prizes will be awarded as follows

- For grades K-2, 3, 4, and 5
  - $60 and a 1st Place Gold medal to the best individual or team (of 2 or 3 students) project in each grade/grade group,
  - a Silver Medal to 2nd Place for individual or team in each grade/grade group
  - a Bronze Medal to 3rd Place for individual or team in each grade/grade group
  - $60 prize and a Plaque for classroom display to the best class project in the Fair.
  - 2nd and 3rd places in the class projects will also be awarded a Plaque.
  - $60 and the Rudy Becwar Trophy to the Best-of-Fair project in K to 5.
- For grades 6, 7, and 8
  - $90 and a 1st Place Gold Medal to the best individual or team (of 2 or 3 students) project in each grade
  - $90 and the Rudy Becwar Trophy to the Best-of-Fair project in the Grade 6 to 8 group.
  - a Silver Medal to 2nd Place individual or team project in each grade
  - a Bronze Medal to 3rd Place individual or team project in each grade
- For grades 9, 10, 11, and 12
  - $120 and a 1st Place Gold Medal to the best individual or team (of 2 or 3 students) project in each grade.
  - $120 and the Rudy Becwar Trophy for the Best-of-Fair project in the Grade 9 to 12 group.
  - a Silver Medal to 2nd Place for individual or team wins,
  - a Bronze Medal 3rd Place for individual or team wins.
- In Tier 2 competition, Honorable Mention Medals will be awarded to a number of projects in each group, as determined by the Judging Committee.

Multiple-year winners from all grades will be recognized and rewarded on a Kiwanis Honor Roll.

Grand Canyon University provides a $2,500 scholarship to be awarded according to the criteria presented in section 7.0

NOTES:
1. For teams winning a medal, EACH team member will receive their own medal. Cash Prizes will be divided equally among the members of the team.
2. The decision of the KCSF judges is final. The judges may decide NOT to award a prize in a given category for good reason, such as where entries are few and/or scores are low.
3. The Rudy Becwar Award is named for Mr. Rudy Becwar, an Engineer who left a generous donation in his estate for Kiwanis to be directed toward Science Education.

7.0 The Grand Canyon University Scholarship

Grand Canyon University provides a $2,500 scholarship to be awarded to a High School Tier 2 Science Fair participant. Guidelines for this scholarship competition are:

1. All high school students who enter an individual entry and participate in the Tier II Kiwanis Science Fair are eligible to win the Grand Canyon University Scholarship.

   No team projects will be considered or be eligible for the Grand Canyon Scholarship.

2. The Scholarship may be used on campus or online.

3. If an undergraduate wins, the scholarship will be available when he or she graduates from high school or use for "On Line" GCU courses when they are a Junior or Senior while still in high school.

4. If a student wins the scholarship and can not use it, the student may transfer it to a family member or a friend.

Criteria to be used to select the winner of GCU Scholarship are:

1. The top five scores for Tier II High School Science Fair Projects will be considered for the award. The entry must be an individual. The selection of a winner will be made after the students have a brief interview with the Kiwanis Science Fair Scholarship Selection Committee.

2. The students selected for the interview will be mailed a short questionnaire to be filled out and returned to the school. This will assist in the interview.

3. After the questioners are received and reviewed, the students will be given a time to appear for the interview. All interviews will be conducted at the high school.

Scoring Form

	High			Average				Low				
1. Answerable Question	10	9	8	7	6	5	4	3	2	1	Score	
	Question is clear and complete. Easy to understand.			Question is somewhat clear and/or complete. Some difficulty in understanding.				Question is unclear and/or incomplete. Difficult to understand.				
2. Research (With Journal & Bibliography)	10	9	8	7	6	5	4	3	2	1	Score	
	Complete research, details how question/hypothesis were originated.			Includes average background and research and is somewhat easy to follow and understand.				Little or no research and background or is difficult to understand and follow.				
3. Testable Hypothesis	10	9	8	7	6	5	4	3	2	1	Score	
	Hypothesis is clearly written, and is a relevant, testable answer to Question.			Hypothesis is not clear, or is not directly relevant to the question; however, it is testable.				Hypothesis is both not clear and not relevant, or is not testable.				
4. Experiment	10	9	8	7	6	5	4	3	2	1	Score	
	Experiment completely tests the hypothesis. Well conceived and explained.			Experiment partially tests the hypothesis. Experiment is reasonably well conceived and data is partially explained.				Experiment poorly tests the hypothesis. Poorly conceived and explained.				
5. Analysis & Evaluation (A&E) (uses correct math)	10	9	8	7	6	5	4	3	2	1	Score	
	A&E are correctly supported by the experimental data. Clearly described and presented.			A&E are partially correctly supported by the experimental data. Only marginally described and presented.				A&E are not supported by the experimental data. Poorly described and presented.				
6. Conclusions	10	9	8	7	6	5	4	3	2	1	Score	
	Conclusions answer the Question and clearly explain with full details from observations as to why the Hypothesis was supported or not.			Conclusions answer to a limited degree the Question and explain some details from the observations as to why the Hypothesis was supported or not.				Conclusions do not answer the Question and/or does not explain why the Hypothesis was supported or not.				
Presentation (Check Spelling & Grammar)	10	9	8	7	6	5	4	3	2	1	Score	
	Highly organized. Neat and legible. All items are labeled and identified.			Marginally organized and neat. Fairly easy to follow.				Poorly organized. Misspellings and/or illegible. Difficult to follow.				
Uniqueness & Creativity	10	9	8	7	6	5	4	3	2	1	Score	Sub Total
	Exceptional uniqueness and creativity are shown in much of the project.			Some uniqueness and creativity are shown in several aspects of the project.				Little uniqueness and creativity are shown in any aspects of the project.				
Project Difficulty								3 Above average		2 Average	1 Below average	Score

8.0 Tips for Parents

In supporting your child's Science Fair efforts, the following should be useful:

- Give encouragement, support, and guidance.
- Make sure your child feels it is his or her project. Make sure the work is primarily the work of the child.
- Realize the main goal of a Science Fair project is to help your child use and strengthen the skills he or she has learned and develop higher-level skills. The main goal should not be the ribbon or prize.
- Provide transportation to libraries, nature centers, or universities that can help your child find project information.
- Locate Internet access, either at home or at a school or library.
- Help your child design a project that is safe and properly supervised.
- Help at your local school Science Fair. Contact your child's teacher to volunteer.
- Help your child plan a mutually agreed upon timeline to prevent a last minute project. Some projects may take 6 to 10 months. It is suggested to allow at least 12 weeks to conduct an experiment and prepare the presentation.
- Do not worry or get upset if your child doesn't win a prize at the Science Fair. The skills the child has gained are worth all of the effort.
- Help your child begin to plan for next year.
- Feel a sense of pride and accomplishment when the Science Fair is over. You and your child have earned it!

9.0 The Scientific Method

The Scientific Method is an approach frequently used by scientist and engineers, both young and old, to study and analyze what they see in the world. It is most important that students realize that the scientific method is a form of critical thinking. The scientific method, as it cold be applied to a science fair project, should include the following phases:

1. Form question
2. Research (planning, bounding the question, evaluating current evidence)
3. Forming a hypothesis
4. Experimentation (testing the hypothesis)
5. Analysis and evaluation
6. Project display

1. Form Question

This is perhaps the most difficult part. Get an idea of what you want to study or learn about. Ideas should come from things in your area of interest. A hobby might lead you to a good topic. What is going on in the world that you would like to know more about? Most importantly, pick a question or problem that is not too broad and that can be answered through scientific investigation. Be as specific as you can when first writing a description of the problem. This will help focus your efforts in the following phases. Your subsequent research may lead to a better description of the problem.

A simple example of a topic/problem might be "How does oven temperature impact the time it takes to bake a cake?

During this phase of you project is a very good time to request a Kiwanis mentor. These professionals have many years of experience and can be a great help in picking a topic and subsequent project phases. Your teacher can arrange for a Kiwanis mentor for you.

2. Research.

The research phase of you project includes many activities. Some of the things you will want to do during the research phase include:

- To learn more about the problem you have selected
- To understand the variables associated with your problem
- To understand your problem well enough to develop a hypothesis
- Develop a time line to manage your time efficiently

More detail about each of these areas is provided below.

To learn more about the problem you have selected

- Organize everything you have learned about your topic. At this point, you should narrow your thinking by focusing on a particular idea.
- Review published materials related to your problem or question. This is called background information
- Go to the library or internet to learn more about your topic.
- Always ask 'Why or What if'. Look for unexplained or unexpected results.
- Talk to professionals in the field.

To understand the variables associated with your problem

- Independent (manipulated) variables – those variables you will change when conducting experiments
- Dependent (responding) variables – those variables to be measured as you change the values of the independent variables
- Controlled variables – those variables being kept constant throughout the experiment

To understand your problem well enough to develop a hypothesis.

- It is important that your hypothesis is testable in the amount of time you will have to spend on the project and with the resources available to you.
- Read the following section before starting your research to help focus some of you research efforts on getting the information you need to form a hypothesis.

Develop a time line to manage your time efficiently.

- Allow plenty of time to experiment and collect data. You may end up wanting to repeat some experiments if you are not satisfied with the results on your first try
- You will also need time to write a report and put together a display or "board

It is important to keep extensive notes throughout the Research phase. You will be doing a lot of reading, talking to professionals and other ways of collecting information. There is no way you can remember everything you learn in the research phase. Write down what you learn for later reference.

3. Hypothesis

To answer your question a hypothesis will be formed. This is an **educated** guess regarding the question's answer. Educated is highlighted because no good hypothesis can be developed without research into the problem.

A scientific hypothesis has to be testable. Your testing must be able to determine if your hypothesis is true or false. All hypotheses will not, and do not need to, turn out to be true. A good form in which to write the hypothesis is

If _____ is changed, the _____ will change in the following way
(independent variable) (dependent variable)

Going back to the cake baking example, your hypothesis could be

If oven temperature is increased the time to bake a cake will decrease.
(independent) (dependent)

Not that the manner in which the dependent variable changes is called out. Do not just say that the dependent variable will change when the independent variable changes.

Examples of controlled variables in this example are:

- the oven used
- the recipe used
- the pan/dish used
- the temperature of the cake mixture at the start of baking

4. Experimentation

Once the hypothesis has been established, it is time to test it. An experiment is designed to prove or disprove the hypothesis. In designing the experiment and identifying the appropriate procedures it is critical that only one variable – a condition that may affect the results of the experiment – is changed at a time. This makes the experiment a "controlled" experiment. Testing and experimenting can occur in the classroom, in the field, on the blackboard or the computer. Results of testing must be reproducible and verifiable. In many instances, it is best to repeat the experiment more than once to see how the results change.

Make an initial determination of independent variable values for which you wish to run your experiment. As you run your initial experiments and collect the dependent variable results, you may determine that additional values of the independent variable need to be tested. That frequently happens when conducting experiments. Here, the experimentation and the data analysis over lap and can be iterative.

That is, you conduct some experiments; you analyze the data and determine what additional experiments need to be conducted. Be sure to allow for such additional testing when you develop you time line.

During experimentation, keep detailed notes of each and every experiment, measurement and observation in a logbook. Do not rely on memory. Besides, judges love logbooks. Use data tables or charts to record your quantitative data. Give some thought as to how you want to organize the collected data. Allow for plenty of room to record your results. Remember, you do not know exactly how your experimentation is going to go. If you did, you would not need to do it.

5. Analysis and Evaluation

When you complete your experiments, examine and organize your findings. Use appropriate graphs to make "pictures" of your data. Graphs very often provide a view of the data that will not be seen when the same data is in a table. Identify patterns from the graphs. This will help you answer your testable question. Did your experiments give you the expected results? Why, or why not? Was your experiment preformed with the exact same steps each time? Are there other explanations that you had not considered or observed? Did you repeat the experiment enough times to show that the results are repeatable? Were there experimental errors in your data taking experimental design or observations? Remember, that understanding errors is a key skill scientists must develop. In addition, reporting that a suspected variable did not change the results can be valuable information. That is just as much a "discovery" as if there was some change due to the variable. In addition, analyze your data using the data that you can understand and explain their meaning.

What patterns do you see from your graph analysis that exists between your variables? Which variables are important? Did you collect enough data? Do you need to conduct more experimentation? Keep an open mind – never alter results to fit a theory. If your results do not support your hypothesis that's OK and in some cases good! Try to explain why you obtained different results than your literature research predicted for you. Were there sources of error that my have caused these differences? If so, identify them. Even if the results do differ, you still have accomplished successful scientific research because you have taken a question and attempted to discover the answer through quantitative testing. This is the way knowledge is obtained in the world of science. Think of practical applications that can be made from this research. How could this project be used in the real world? Finally, explain how you would improve the experiment and what would you do differently

6. Conclusions

The focus here is on describing why the hypothesis is correct, mostly correct, partially correct, or false (any of these is OK). Other important parts to this section include the changes you would make were you to do the project again, further experimentation needed, and additional research that would extend your understanding of your problem.

Project Display

One cannot overemphasize the importance of properly displaying the results of you projects. The ONLY visibility the judges, your teacher, your friends, or anyone else has to what you did for your project is through the display board you prepare. It is very important that you completely cover your problem on you display board and report. Included in what you might want to present are:

- present the important phases of the project in an orderly manner?
    - the six phases of the Scientific Method presented above are to be used on the display board (see next page for example project board)
- clearly present the data and the results
- show that conclusions based on replicated experiments where appropriate
- material that shows you understand the research
- cite scientific literature, popular literature (local newspaper, Reader's Digest), rather than citing only internet literature (web sites, search engines)
- indicate what further research is warranted

English is the language to be used on the display board and in the project report.

1. QUESTION or PROBLEM STATEMENT	# PROJECT TITLE	**5.0 ANALYSIS & EVALUATION**
2.0 RESEARCH Summary: Includes BIBLIOGRAPHY)	**4.0 EXPERIMENT** • **PROCEDURE**	**6.0 CONCLUSIONS**
3.0 HYPOTHESIS	• **MATERIALS NEEDED** • **RESULTS: DATA, PICTURES & GRAPHS**	**FUTURE RESEARCH**

Sample Project Board Layout

Project Journal

Updated throughout the project time period (See Section 5.0)

11.0 Other Fairs

At each level, Tier 1 or Tier 2, Kiwanis will assist the schools to identify and encourage the best project entries that qualify for advancement to other higher-level Science Fairs such as AZSEF, AVNET or ISEF. This will depend on mutually matching schedules for these other fairs. These other higher-level Fairs are located on the Internet at:

http://azsef.asu.edu/ (Arizona Science and Engineering Fair – new title in 2008)

http://www.sciserv.org/index.htm (Intel International Science and Engineering Fair and also Intel Science Talent Search)

12.0 Credits, Sources, and Resources

The section identifies some of the organizations and/or people who have contributed to the success of the Kiwanis Community Science Fair.

Kiwanis Club of Carefree. The Kiwanis Science Education Committee (KSEC), chartered by the Kiwanis Club management, is a group of scientific-minded people who see the prime importance to the individual student, to the community, to the nation and to the world of having deeper and more widespread knowledge about Science in general. KSEC operates the Science Fair and other related Science Education activities throughout the year. Many other Kiwanians are also involved in various capacities, including Judging, Data Entry, Mentoring, moving tables, etc.

Mr. Rudy Becwar. The Rudy Becwar Awards, named fin honor of Mr. Rudy Becwar, an Engineer who left a generous donation in his estate for Kiwanis to be directed toward Science Education. In recognition of his generosity, the Kiwanis Club of Carefree has elected to name the top prizes in each Science Fair category in his honor.

Desert Foothills Community Education. This organization, a department of CCUSD, works in conjunction with Kiwanis in setting up the Tier 2 Science Fair at Cactus Shadows Fine Arts Center and also functions at other Tier 1 schools during the year.

Arizona Science and Engineering Fair (AzSEF) The **Arizona Science and Engineering Fair (AzSEF)** is a recognized Science Service state affiliated fair open to all 5th - 12th grade students attending schools in the northern two-thirds of Arizona. Students bring their science projects to the AzSEF to be judged by professionals in the areas of science, mathematics, engineering, and technology Also, they provided a 3-day Science Fair Training session at CCUSD for 24 teachers and 6 Kiwanians in October 2007.
http://azsef.asu.edu/

Intel International Science and Engineering Fair (ISEF). The Intel International Science and Engineering Fair Presented by Agilent Technologies (Intel ISEF)—the world's largest pre-college science competition—provides an opportunity for the best young scientists from around the globe to share ideas, showcase cutting-edge science projects, and compete for over $4 million in awards and scholarships.

http://www.sciserv.org/index.htm

13.0 Available Support

The Kiwanis Club of Carefree is eager to provide **mentoring** opportunities to all students requesting assistance. The Kiwanis membership has a great variety of professional engineers and scientists well qualified, willing and eager to work with single students or groups of students. Your teacher can arrange for a Kiwanis mentor.

The Kiwanis Club of Carefree is willing to help sponsor students in need of financial assistance. The financial assistance forms may be obtained from the Kiwanis Volunteer for your school. Teachers must agree to the identified needs. Students need to save receipts and make a financial report to Kiwanis at the end of their project.

The Kiwanis Club of Carefree encourages teachers to plan field trips to visit other schools' Tier One Science Fairs and the Community Science Fair at the Fine Arts Center. Kiwanis will pay for the transportation. Teachers must fill out the appropriate transportation documents and state that "Kiwanis" will pay the charges.

Questions on items covered herein or on the Carefree Kiwanis Community Science Fair can be directed to any of the following individuals:

Ron Ireland	480-488-2688	ronireland01@aol.com
Paula Scully	480-595-0508	paulasscully@msn.com
Jim Walborn	480-473-8349	jim_walborn@qwest.net

A Kiwanis Volunteer (KV) is assigned to each school wishing to participate in Tier 1 and Tier 2 Fairs. These individuals work with the Site Facilitator (SF) at their school to assure the success of the Fair at that school. Questions concerning Kiwanis' participation in a school's Fair can be directed toward the KV. The KVs with their email addresses and phone numbers are:

CCUSD Schools

Cactus Shadows High School	Gerry Samos	gsamos@cox.net	480-595-9221
Desert Arroyo Middle School	Ron Ireland	ronireland01@cox.net	480-488-2688
Sonoran Trails Middle School	Jim Walborn	jim_walborn@q.net	480-473-8349
Black Mountain Elem School	Elaine Adrian	kreeker@qwest.net	480-575-2071
Desert Sun Elem School	Ron Ireland	ronireland01@cox.net	480-488-2688
Desert Willow Elem School	Paula Scully	paulasscully@msn.com	480-595-0508
Horseshoe Trails Elem School	Burt Lundquist	Burtonrlundquist@aol.com	480-502-1964
Lone Mountain Elem School	Paula Scully	paulasscully@msn.com	480-595-0508

Other schools

Bella Vista	Jim Walborn	jim_walborn@q.com	480-473-8349
Dynamite Montessori	Jim Walborn	jim_walborn@q.com	480-473-8349
Foothills Academy	Jim Walborn	jim_walborn@q.com	480-473-8349
Ventana Academy	Jim Walborn	jim_walborn@q.com	480-473-8349
Home Schools	To Be Determined		