

TEXAS



HIGH SCHOOL SECTION

CATEGORY BASED PROJECTS

WOOD CATEGORY

Items in this category involve student created projects in which students used traditional and modern woodworking tools, methods, and techniques to create projects.

Any projects in which CNC mills, lathers, computer controlled lasers, etc... were used to produce more than 50% of the major components **SHOULD NOT** be entered in this category.

Judging criteria for production will be based on the following areas: degree of difficulty, appearance, finish, and craftsmanship. NOTE: Board footage is calculated as it is displayed.

REQUIRED MINIMUM DOCUMENTATION:

Level 1 - Single Page containing a Bill of Materials and a single descriptive paragraph explaining the design, development and production of project.

Level 2 - Cover - centered on the page in consecutive lines, the student(s)' name(s), the product name, and school name

1 page max - Description of product, instructions for its use, design process, production process, etc...

3 pages max - sketches, working drawings, pictures of production process, etc... (minimum of 1 page in this section)

Documentation can be housed in a 3-ring binder, folder, or plastic page protector.(or the equivalent of listed

MANUFACTURING - WOODS

Mass Production Entry

(2 items must be displayed, item size is calculated on one item only)

Team Entry

Individual Entry

Wood turning Pen/Pencil Set -Manual	05000	05001	05002	
Wood turning Pen or Pencil- Manual	05003	05004	05005	
Wood turning Pen/Pencil Set - Machine (NON CNC)	05006	05007	05008	
Wood turning Pen or Pencil- Machine (NON CNC)	05009	05010	05011	
Wood turning not exceeding .25 board ft.	05012	05013	05014	
Wood turnings not exceeding .5 board ft	05015	05016	05017	
Wood turnings not exceeding 1 board ft	05018	05019	05020	
Wood turning not exceeding 1.5 board ft.	05021	05022	05023	
Wood turning not exceeding 2 board ft.	05024	05025	05026	
Wood turning not exceeding 4 board ft.	05027	05028	05029	
Wood turning not exceeded 6 board ft	05030	05031	05032	
Wood turning not exceeded 8 board ft	05033	05034	05035	
Wood turning not exceeding 10 board ft	05036	05037	05038	
Wood turning not exceeding 15 board ft.	05039	05040	05041	
Wood turning exceeding 15 board ft.	05042	05043	05044	

MANUFACTURING - WOODS**Mass Production Entry**

(2 items must be displayed, item size is calculated on one item only)

Team Entry**Individual Entry**

Wood entries not exceeding 0.5 board ft.	05045	05046	05047
Wood entries not exceeding 1 board ft.	05048	05049	05050
Wood entries not exceeding 2 board ft.	05051	05052	05053
Wood entries not exceeding 4 board ft.	05054	05055	05056
Wood entries not exceeding 6 board ft.	05057	05058	05059
Wood entries not exceeding 8 board ft.	05060	05061	05062
Wood entries not exceeding 10 board ft.	05063	05064	05065
Wood entries not exceeding 15 board ft.	05066	05067	05068
Wood entries not exceeding 20 board ft.	05069	05070	05071
Wood entries not exceeding 25 board ft.	05072	05073	05074
Wood entries not exceeding 30 board ft.	05075	05076	05077
Wood entries not exceeding 35 board ft.	05078	05079	05080
Wood entries not exceeding 40 board ft.	05081	05082	05083
Wood entries not exceeding 50 board ft.	05084	05085	05086
Wood entries not exceeding 60 board ft.	05087	05088	05089
Wood entries not exceeding 70 board ft.	05090	05091	05092
Wood entries not exceeding 80 board ft.	05093	05094	05095
Wood entries not exceeding 90 board ft.	05096	05097	05098
Wood entries not exceeding 100 board ft.	05099	05100	05101
Wood entries not exceeding 120 board ft.	05102	05103	05104
Wood entries not exceeding 140 board ft.	05105	05106	05107
Wood entries not exceeding 150 board ft.	05108	05109	05110
Wood entries exceeding 150 board ft.	05111	05112	05113

DIMENSIONAL MATERIALS

The following classifications are set aside for outdoor/recreational products constructed from dimensional materials such as 2 x4, 2x6, etc.

Team**Individual**

Less than 20 b.f.	05126	n/a
20 to 30 b.f.	05127	05128
30 to 40 b.f.	05129	05130
40 to 50 b.f.	05131	05132
More than 50 b.f.	05133	05134

METALS CATEGORY

Items in this category involve student created projects in which students used metal working tools, methods, and techniques to create projects

Any projects in which CNC mills, lathers, computer controlled lasers, etc... were used to produce more than 50% of the major components **SHOULD NOT** be entered in this category.

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 (minimum of 1 page)

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MANUFACTURING - METALS

Team - Mass Production

Team - Single Product

Individual

Entries not exceeding 5 lbs. - no sheet metal	05150	05151	05152
Entries not exceeding 10 lbs. - no sheet metal	05153	05154	05155
Entries not exceeding 20 lbs. - no sheet metal	05156	05157	05158
Entries not exceeding 30 lbs. - no sheet metal	05159	05160	05161
Entries not exceeding 50 lbs. - no sheet metal	05162	05163	05164
Entries exceeding 50 lbs. - no sheet metal	05165	05166	05167
(Entrees below need not include sheet metal)			
Entries not exceeding 10 lbs. - combined sheet & wrought metal Major fabrication is wrought	05168	05169	05170
Entries not exceeding 20 lbs. - combined sheet & wrought metal Major fabrication is wrought	05171	05172	05173
Entries not exceeding 50 lbs. - combined sheet & wrought metal Major fabrication is wrought	05174	05175	05176

MANUFACTURING - METALS

Team - Mass Production

Team - Single Product

Individual

Entries not exceeding 100 lbs. - combined sheet & wrought metal Major fabrication is wrought	05177	05178	05179
Entries not exceeding 150 lbs. - combined sheet & wrought metal Major fabrication is wrought	05180	05181	05182
Entries not exceeding 200 lbs. - combined sheet & wrought metal Major fabrication is wrought	05183	05184	05185
Entries not exceeding 250 lbs. - combined sheet & wrought metal Major fabrication is wrought	05186	05187	05188
Entries not exceeding 300 lbs. - combined sheet & wrought metal Major fabrication is wrought	05189	05190	05191
Entries not exceeding 350 lbs. - combined sheet & wrought metal Major fabrication is wrought	05192	05193	05194
Entries not exceeding 400 lbs. - combined sheet & wrought metal Major fabrication is wrought	05195	05196	05197
Entries not exceeding 500 lbs. - combined sheet & wrought metal Major fabrication is wrought	05198	05199	05200
Entries not exceeding 800 lbs. - combined sheet & wrought metal Major fabrication is wrought	05201	05202	05203
Entries not exceeding 1000 lbs. - combined sheet & wrought metal Major fabrication is wrought	05204	05205	05206
Entries not exceeding 1500 lbs. - combined sheet & wrought metal Major fabrication is wrought	05207	05208	05209
Entries not exceeding 2000 lbs. - combined sheet & wrought metal Major fabrication is wrought	05210	05211	05212
Entries not exceeding 2500 lbs. - combined sheet & wrought metal Major fabrication is wrought	05213	05214	05215
Entries not exceeding 3000 lbs. - combined sheet & wrought metal Major fabrication is wrought	05216	05217	05218
Entries exceeding 3000 lbs. - combined sheet & wrought metal Major fabrication is wrought	05219	05220	05221
Metal Sculpturing - Ferrous or nonferrous	05222	05223	05224

SHEET METAL

Entries in which the major material is sheet metal. (.125 inches maximum thickness)

Classifications are for the total combined sheet metal area contained in the entry.

Mass Production**Team - Single Product****Individual**

Scroll work (fastened or joined)	05234	05235	05236
Entries not exceeding 2 sq. ft	05237	05238	05239
Entries not exceeding 8 sq. ft	05240	05241	05242
Entries not exceeding 15 sq. ft	05243	05244	05245
Entries exceeding 15 sq. ft.	05246	05247	05248

FORGING

Entries made from medium or high carbon tool steel. Entries may have wood, plastic or other material as part of the product.

Mass Production Entry

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Team Entry**Individual Entry**

Scroll work (fastened or joined)	05261	05262	05263
Entries not exceeding 2 sq. ft.	05264	05265	05266
Entries not exceeding 8 sq. ft.	05267	05268	05269
Entries not exceeding 15 sq. ft.	05270	05271	05272
Entries exceeding 15 sq. ft.	05273	05274	05275
1 piece forged and heat-treated	05276	05277	05278
Forged and heat treated sets	05279	05280	05281

FOUNDRY**Mass Production Entry**

(2 items must be displayed, item size is calculated on one item only)

Team Entry**Individual Entry**

Rough castings	05294	05295	05296
Finished foundry products - not more than 4 cast parts	05297	05298	05299
Finished foundry products - more than 4 cast parts	05300	05301	05302
Pattern and match plates- rough casting must accompany entry	05303	05304	05305
Disposable – 1 time use patterns, lost wax, Styrofoam, etc.			
2 oz. or less	05306	05307	05308
8 oz. or less	05309	05310	05311
1 lb. or less	05312	05313	05314
More than 1 lb.	05315	05316	05317

MACHINE METAL

Finishes for all entries should be appropriate. Commercial - industrial practices should be the guides as to the degree and kind of finish to use. No plating except in the designated classifications.

Entries consisting of more than 1 part must be assembled if possible. All non-student made parts should be identified as per rule 16. Standard hardware items, such as screws, bolts, washers, keys, pins, etc. that are not student made will not count as parts but must be identified.

Mass Production Entry

(2 items must be displayed, item size is calculated on one item only)

Team Entry

Individual Entry

Working Production machines or devices	05330	05331	05332
Entries containing not more than 1 student made part	05333	05334	05335
Entries containing not more than 3 student made parts	05336	05337	05338
Entries containing 4 or more student made parts	05339	05340	05341
Student plated entries	05342	05343	05344
Entries made from commercial kits or castings	05345	05346	05347

MATERIALS CATEGORY

Items in this category involve student created projects in which students used traditional and modern tools, methods, and techniques to create projects from various materials not listed under other categories.

Any projects in which CNC mills, lathers, computer controlled lasers, etc... were used to produce more than 50% of the major components **SHOULD NOT** be entered in this category.

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MANUFACTURING - MATERIALS**Mass Production****Team - Single Product****Individual**

Pen/Pencil Set -Manual	05360	05361	05362
Pen or Pencil- Manual	05363	05364	05365
Manual Turnings not exceeding 2 ounces	05366	05367	05368
Manual Turnings not exceeding 4 ounces	05369	05370	05371
Manual Turnings not exceeding 8 ounces	05372	05373	05374
Manual Turnings not exceeding 1 lbs.	05375	05376	05377
Manual Turnings exceeding 1 lbs	05378	05379	05380
Machine turning less than 8 oz (NON CNC)	05381	05382	05383
Machine turning less than 16 oz (NON CNC)	05384	05385	05386
Machine turning more than 16 oz (NON CNC)	05387	05388	05389
Entries not exceeding 1 ounce	05390	05391	05392
Entries not exceeding 2 ounces	05393	05394	05395
Entries not exceeding 5 ounces	05396	05397	05398
Entries not exceeding 10 ounces	05399	05400	05401
Entries not exceeding 15 ounces	05402	05403	05404
Entries not exceeding 2 pounds	05405	05406	05407
Entries not exceeding 5 pounds	05408	05409	05410
Entries not exceeding 10 pounds	05411	05412	05413
Entries not exceeding 20 pounds	05414	05415	05416
Entries exceeding 40 pounds	05417	05418	05419
Welding (non-metal)	05420	05421	05422
Casting (non metal) not exceeding 2 oz.	05423	05424	05425
Casting (non metal) not exceeding 5 oz.	05426	05427	05428
Casting (non metal) not exceeding 10 oz.	05429	05430	05431
Casting (non metal) not exceeding 16 oz.	05432	05433	05434
Casting (non metal) not exceeding 2 lbs.	05435	05436	05437
Casting (non metal) not exceeding 4 lbs.	05438	05439	05440
Casting (non metal) exceeding 4 lbs.	05441	05442	05443

RESTORATION

Items that were originally commercially manufactured and have been restored to their original state. A work history must accompany the entry showing the condition of the item before the restoration. All parts not reconditioned by the student must be identified.

Team**Individual**

Restoration - furniture	05456	05457
Restoration - mechanical/machine devices	05458	05459
Restoration - electrical/appliances	05460	05461
Restoration - vehicles	05462	05463

RECYCLED MATERIALS

Items made out of a minimum of 50% recycled materials

A work history must accompany the entry showing the recycled item before construction

Mass Production

Team Single Product

Individual

Recycled - Woods	05468	05469	05470
Recycled - Metals	05471	05472	05473
Recycled - Electrical/electronics	05474	05475	05476
Recycled - Other	05477	05478	05479
Recycled - Combination of two or more recycled materials	05480	05481	05482

CNC/CAM and PROGRAMMING CATEGORY

Items in this category involve student created projects in which students used Computer Numerical Control or Computer Aided Manufacturing devices to create projects.

Any projects in which CNC mills, lathes, computer controlled lasers, etc... were **NOT** used to produce **ALL** major components **SHOULD NOT** be entered in this category.

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CNC/CAM - WOOD**Mass Production Entry***(2 items must be displayed)***Team Entry****Individual Entry**

CNC/CADD/CAM - Lathe single part	05490	05491	05492
CNC/CADD/CAM -PEN/PENCIL ONLY - Lathe single part	05493	05494	05495
CNC/CADD/CAM - Lathe - 2 to 5 parts	05496	05497	05498
CNC/CADD/CAM -PEN/PENCIL SET	05499	05500	05501
CNC/CADD/CAM - Lathe - 6 to 10 parts	05502	05503	05504
CNC/CADD/CAM - Lathe - 11 or more parts	05505	05506	05507
CNC/CADD/CAM –Lathe single part – KIT	05508	05509	05510
CNC/CADD/CAM –Lathe More than one part – KIT	05511	05512	05513
CNC/CADD/CAM - Mill / Router - single part	05514	05515	05516
CNC/CADD/CAM - Mill / Router - 2 to 5 parts	05517	05518	05519
CNC/CADD/CAM - Mill / Router - 6 to 10 parts	05520	05521	05522
CNC/CADD/CAM - Mill / Router - 11 or more parts	05523	05524	05525
Computer Controlled Engraving - Single Material - 1 part	05526	05527	05528
Computer Controlled Engraving - Single Material - More than 1 part	05529	05530	05531
Computer Controlled Engraving - Multiple Material - More than 1 part	05532	05533	05534
CNC/CADD/CAM - Plasma Cutter - Single part	05535	05536	05537
CNC/CADD/CAM - Plasma Cutter - 2 to 5 parts	05538	05539	05540
CNC/CADD/CAM - Plasma Cutter - 6 to 10 parts	05541	05542	05543
CNC/CADD/CAM - Plasma Cutter - 11 or more parts	05544	05545	05546
F.M.S. – Multiple machine – multi tasks – single part, hard copy of the programs must accompany entry	05547	05548	05549
F.M.S. – Multiple machine – multi tasks – multiple parts, hard copy of the programs must accompany entry	05550	05551	05552
Robotic Welding	05553	05554	05555
FMS Multiple machine Multi-task-video <i>Demonstration</i> - 5 minute Maximum...	05556	05557	NA
CIM Multiple machine Multiple task-video <i>Demonstration</i> - 5 minute Maximum	05558	05559	NA

CNC/CAM - OTHER MATERIALS**Mass Production Entry***(2 items must be displayed)***Team Entry****Individual Entry**

CNC/CADD/CAM - Lathe single part	05580	05681	05682
CNC/CADD/CAM - Lathe - 2 to 5 parts	05683	05684	05685
CNC/CADD/CAM - Lathe - 6 to 10 parts	05786	05687	05688
CNC/CADD/CAM - Lathe - 11 or more parts	05889	05690	05691
CNC/CADD/CAM –Lathe single part – KIT	05992	05693	05694

CNC/CAM - OTHER MATERIALS**Mass Production Entry***(2 items must be displayed)***Team Entry****Individual Entry**

CNC/CADD/CAM –Lathe More than one part – KIT	06095	05696	05697
CNC/CADD/CAM - Mill / Router - single part	06198	05699	05700
CNC/CADD/CAM - Mill / Router - 2 to 5 parts	06301	05702	05703
CNC/CADD/CAM - Mill / Router - 6 to 10 parts	06404	05705	05706
CNC/CADD/CAM - Mill / Router - 11 or more parts	06507	05708	05709
Computer Controlled Engraving - Single Material - 1 part	05710	05711	NA
Computer Controlled Engraving - Single Material - More than 1 part	05712	05713	NA
Computer Controlled Engraving - Multiple Material - More than 1 part	05714	05715	NA
CNC/CADD/CAM - 3D Printer/Rapid Prototype - single part	05716	05717	NA
CNC/CADD/CAM - 3D Printer/Rapid Prototype - 2 to 5 parts	05718	05719	NA
CNC/CADD/CAM - 3D Printer/Rapid Prototype - 6 to 10 parts	05720	05721	NA
CNC/CADD/CAM - 3D Printer/Rapid Prototype- 11 or more parts	05722	05723	NA
CADD/CAM/CNC Embroidery Single Design	05724	05725	NA
CADD/CAM/CNC Embroidery Multiple Design	05726	05727	NA
CADD/CAM/CNC Vinyl Cutter - Single Color - less than 3.5 x 18"	05728	05729	NA
CADD/CAM/CNC Vinyl Cutter - Multi Color - less than 3.5 x 18"	05730	05731	NA
CADD/CAM/CNC Vinyl Cutter - Single Color - 8 x 10"	05732	05733	NA
CADD/CAM/CNC Vinyl Cutter - Multi Color - 8 x 10"	05734	05735	NA
CADD/CAM/CNC Vinyl Cutter - Single Color - 8 x 10" - Original image design must include documentation of design effort	05736	05737	NA
CADD/CAM/CNC Vinyl Cutter - Multi Color - 8 x 10" - Original image design must include documentation of design effort	05738	05739	NA
CADD/CAM/CNC Vinyl Cutter - Single Color - Large Format	05740	05741	NA
CADD/CAM/CNC Vinyl Cutter - Multi Color - Large format	05742	05743	NA

COMPUTER CONTROL**Team Entry****Individual Entry**

Computer Control – Control motor(s), light(s), switch(es), solenoid(s), etc. - Kit		05748	05749
Computer Control – Control motor(s), light(s), switch(es), solenoid(s), etc. – Student made		05750	05751
		05752	05753
Robotics Control Program – use CD-R / DVD format		05754	05755

COMMUNICATION/PRINT MEDIA CATEGORY

Items in this category involve student created projects in which students used traditional and modern methods, equipment, and processes to create Communication projects.

SCREEN PRINTS: Entries must include 3 copies in order to judge consistent registration and quality, along with content, composition and overall visual effect. Maximum size not to exceed 11 x 17 inches.

GI-24 – Binding Terms

Bound – Example, spiral bound, glued and tape, GBC Machine
Saddle Stitch – Stapled in the fold.

Entries that depict sex, drugs, tobacco, gangs, violence, or cults will not be permitted. This does not preclude posters, “etc.” that may bring awareness of these and other issues as deemed appropriate by TEA, State Board of Education, and local school policy

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DESKTOP PUBLISHING

Team

Individual

Business Cards/Name Tags, Invitations etc.	06000	n/a
Certificate	06001	n/a
Flyer, newspaper ad, etc. - Single Sheet	06002	n/a
Form - Single Sheet	06003	n/a
Calendar – Single Sheet	06004	n/a
Calendar – Multiple Sheet	06005	06006
Resume - One page, front only	06007	n/a
Form Single Sheet	06008	n/a
CD Packaging – must include CD case and labeling	06009	n/a
Brochure 2-4 printed panels (Maximum paper size is 8.5 x 11)	06010	n/a
Brochure 5 or more printed panels (Maximum paper size is 8.5 x 11)	06011	06012

Brochures may include: invitations, greeting cards, menus, programs, travel, marketing, information, etc.

DESKTOP PUBLISHING**Team****Individual**

Thematic Portfolio - A collection of four or more graphic images following a central theme (Example: section pages in a yearbook, etc. - Could be created from an "art" program, scanned and/or original art work - Not limited to these examples)	06013	06014
Desktop publishing - thematic portfolio display to promote a Business (<i>Might include stationary, business cards, fliers, business forms, etc.</i>)	06015	06016
Booklet - Multiple page document (Instructional manual, memory book, course description, student handbook, etc.) Must be bound on edge	06017	06018
Pamphlet - Multiple page document – maximum size 8.5 x 11 Folded in half and saddle stitched (stapled) Refer to GI-24)	06020	06021
Newsletter - Must Include Flag (heading with title, date, etc.) Single Sheet - Front Only - Maximum sheet size 8.5 x 11 inches	06022	n/a
Newsletter - Must Include Flag Single Sheet Front and Back Maximum sheet size 8.5 x 11 inches	06024	n/a
Newspaper - Must Include Flag – Multiple sheets - Maximum Sheet Size 11 x 17 inches (could be four 8.5 x 11 inches taped together to form camera-ready flats)	06026	06027
Magazine Layout Student produced magazine of 5-10 pages, must have a common theme. For example fashion, cars, sports, ect. Must be submitted on 8.5x11 pages, bound for sale. All photos and stories must be original work of the student.	06028	06029
Product Label – Ex. Soup label	06030	06031
Product Packaging –Ex. Cereal box	06032	06033
Database	06034	06035
Spreadsheet	06036	06037
Computer Image Transfer- one color (fabric, mug, etc...)	06038	06039
Computer Image Transfer-multi color (fabric, mug, etc...)	06040	06041
Other desktop communication not mentioned above	06042	06043

PRINT COMMUNICATION

Print communication entries must include a minimum of three copies in order to judge consistent registration and quality along with content, composition and overall effect. Maximum finished size is 11 x 17 inches.

Team**Individual**

Screen print communication - one color on paper, fabric, or container Should advertise a product, place or upcoming event	06046	06047
Screen print communication - multicolor on paper, fabric, or container Should advertise a product, place or upcoming event	06048	06049

TECHNICAL REPORT

Team

Individual

Database – Create a form to collect data, enter the data, show evidence of sorting and use of the query/match functions – print appropriate reports (example bill of materials, club reports, etc.) Limit print outs to 4 sheets with appropriate headers and page numbers	06050	n/a
Spreadsheet – Create a budget for a computer project or enterprise – show use of labels for each row and column, headings, titles, appropriate formulas graph data, etc. – a print out showing formulas used must be included Limit print outs to 4 sheets with appropriate headers and page numbers	06052	n/a

TECHNICAL REPORT - Specific fields

Using Word Processing software create a technical report – include a cover sheet, body of report, and bibliography. Citations and bibliography can be in either MLA or APA format.

Team

Individual

Aerospace related	06056	06057
Architectural related	06058	06059
Biotech - emerging technology	06060	06061
Communication Technology - Engineering	06062	06063
Communication Technology - Scientific	06064	06065
Computer Aided Design	06066	06067
Computer Aided Manufacturing	06068	06069
Computer Digital Transfer Technology (example: Digital Music)	06070	06071
Energy Technology - Engineering	06072	06073
Energy Technology - Scientific	06074	06075
Alternate Energy	06076	06077
Engineering - Applied research.	06078	06079
For example: improve an existing machine or material		
Illustrate the difference 2 or more types of structures	06080	06081
Machine Design	06082	06083
Meteorology	06084	06085
Production Technology - Engineering	06086	06087
Robotics - emerging technology	06088	06089
Satellite communication	06090	06091
Science - Research using given scientific parameters and formulas to obtain conclusions. For example: determining the speed of an object based on time and distance.	06092	06093
Statistical processing	06094	06095
Web Page Design	06096	06097
Technical Report – Create a report integrating two or more of the processes Word processing, database and/or spreadsheet	06098	n/a

Team**Individual**

A combination of any of the above Technologies - Engineering	.....	06100	06101
A combination of any of the above Technologies - Science	.....	06102	06103
Other field or area not listed	.....	06104	06105

MULTIMEDIA & ANIMATION CATEGORY

Items in this category involve student created projects in which students used Multimedia & Animation Technology to create 2D and 3D projects. Multimedia includes video, audio, graphics, cd, dvd, and animation.

MULTIMEDIA: Entries must include two or more communications methods. A story board and brief description of the two or more communications methods used must be included.

CD/DVD-R must be read only, must be read by current version of Internet Explorer or .flc, .avi, and .mov formats. CD's must be in RESEALABLE clear plastic sleeves and CD cases must not be sealed shut. CD-R / DVD format is required and must be Autoplay.

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2 pages max - design sketches, storyboard, scripts, screen shots, etc (minimum of 1 page in this section)

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COMPUTER GENERATED PRESENTATION

Multimedia – entries must include two or more communication methods.

A story board and brief description of the two or more communication methods used must be included.

Team**Individual**

Presentation – not more than 15 slides	06110	06111
Presentation – Not more than 25 slides	06112	06113
Presentation – More than 25 slides	06114	06115

SOUND EDITING**Team****Individual**

Audio CD —30 seconds	06116	06117
Audio CD —60 seconds	06118	06119
Audio Editing – must supply original & finished copy - 15 Sec. Max	06120	06121
Audio Editing – must supply original & finished copy - 30 Sec. Max	06122	06123
Audio Editing – must supply original & finished copy - 60 Sec. Max	06124	06125
Audio Editing – must supply original & finished copy - 3 Minutes Max	06126	06127

VIDEO EDITING

Students must supply original footage and finished copy.

CD-R / DVD format

Team**Individual**

Video Commercial – 15 Seconds precisely	06134	06135
Video Commercial – 30 Seconds precisely	06136	06137
Video Commercial – 60 Seconds precisely	06138	06139
Video Presentation – 30 seconds precisely	06140	06141
Video Presentation – 60 seconds precisely	06142	06143
Video Presentation – 120 seconds precisely	06144	06145
Video Promotional/Instructional/Demonstration – 3 minutes maximum	06146	06147
Video Album (Example: memories on video) – 5 minutes maximum	06148	06149
Video Editing Musical Original Music - Maximum one song	06150	06151
Video Newscast – No commercially processed program 3 minute maximum	06152	06153
Video Animation (3-5 minutes)	06154	06155
Graphic Video –(Example: Logo created in PhotoShop for video)	06156	06157
Marketing Video – (Example: Non-Profit organization video such as say no to drugs)	06158	06159
Video Editing – must supply original & finished copy	06160	06161
Video Editing Chromakey Screen - Original and After (Maximum 60 seconds.)	06162	06163
Video Editing Musical – Max One Song.	06164	06165
Video Public Service Announcement 30 sec.	06166	06167

VIDEO EDITING**Students must supply original footage and finished copy.****CD-R / DVD format****Team****Individual**

Music Video Lip Sync – (Example: MTV, CMT Video) (Refer to page 8 Rule 7)	06168	06169
Music Video Original Student – (1 Song Length Max) (Refer to page 8 Rule 7)	06170	06171
Historical aspect of your community, mini encyclopedia (must include sound, text, animation, and or digital video)	06172	06173
Video Highlights - Video Footage Only	06174	06175

COMPUTER IMAGING**CD-R / DVD format****Team****Individual**

Computer Generated Graphic Art - No clip art – Single page - Color	06182	06183
Computer Generated Graphic Art - No clip art – Single page – Black & White	06184	06185
Computer generated graphic art - No clip art - Multiple page - color	06186	06187
Computer generated graphic art - No clip art - Multiple page - black & white	06188	06189
Computer generated original 3-D Landscape – no clip art	06190	06191
Computer generated original 3-D Architecture – no clip art	06192	06193
Computer generated original 3-D Transportation – no clip art	06194	06195
Computer generated original 3-D Sci-Fi Image – no clip art	06196	06197
Computer generated original 3-D Not mentioned above – no clip art	06198	06199
Computer Generated Original Drawing or Painting- B/W- Paint program- no clip art	06200	06201
Computer Generated Original Drawing or Painting- Color- Paint program- no clip art	06202	06203
Computer Scanned Object(s). – (Example: Montage)	06204	06205
Computer Image Transfer – Fabric Applications (Example: T-shirt)	06206	06207
Computer Image Transfer – Other Applications (Example: Mugs)	06208	06209
Computer Manipulated Scanned Image – <i>Scanned image(s) which have been computer manipulated. Must include original image(s)</i>	06210	06211
Computer Manipulated Digital Image – <i>Digital image(s) which have been computer manipulated. Must include original image(s)</i>	06212	06213
Desktop Wallpaper	06214	06215

2D ANIMATION**CD-R / DVD format****Team****Individual**

2D Animation with sound and or lip sync- 30 sec. max	06224	06225
2D Animation – Ex. animated gif's – 30 sec. max.	06226	06227
2D Animation without sound. - 30 sec. max	06228	06229
2D Animation. (3 minute maximum)	06230	06231

2D ANIMATION**CD-R / DVD format****Team****Individual**

Open 2D Animation. – 5 min. max	06232	06233
2D Animation (15 seconds – MUST BE PRECISELY 15 SEC)	06234	06235
2D Animation (30 seconds – MUST BE PRECISELY 30 SEC)	06236	06237
2D Animation (60 seconds – MUST BE PRECISELY 60 SEC)	06238	06239
2D Animated Commercial – 15 Seconds precisely	06240	06241
2D Animated Commercial – 30 Seconds precisely	06242	06243
2D Animated Commercial – 60 Seconds precisely	06244	06245
Generate a Morphing image	06246	06247

3D ANIMATION**CD-R / DVD format****Team****Individual**

3D Introduction EXAMPLE: spinning logo	06250	06251
Walkthrough Architecture – 60 Sec.. max	06252	06253
Flythrough Architecture – 60 Sec. max	06254	06255
Walkthrough Landscape – 60 Sec. max	06256	06257
Flythrough Landscape – 60 Sec. max	06258	06259
Animated Mechanical movement - 60 Sec. Max	06260	06261
Animated Transportation Device – 60 Sec. Max	06262	06263
Sci-fi Animation– 60 Sec. Max.	06264	06265
Time Lapse Animation – 60 Sec. Max	06266	06267
Open 3D animation (3 minute maximum)	06268	06269
3D Animation (15 seconds – MUST BE PRECISELY 15 SEC)	06270	06271
3D Animation (30 seconds – MUST BE PRECISELY 30 SEC)	06272	06273
3D Animation (60 seconds – MUST BE PRECISELY 60 SEC)	06274	06275
3D Animated Commercial – 15 Seconds precisely	06276	06277
3D Animated Commercial – 30 Seconds precisely	06278	06279
3D Animated Commercial – 60 Seconds precisely	06280	06281
Human or Animal 3D animation – 60 Sec. Max	06282	06283
Presentation Animation : Multiple part animation (Note: This category is reserved for students working with 3-D applications, Advanced Modeling and some of the Animation software - Max 5 min. CD-R / DVD format	06290	06291
Multimedia Presentation of a single machine part. (3-D drawing digital presentation)	06292	n/a

WEBPAGE DESIGNS**CD-R / DVD format****Team****Individual****CD-R / DVD format**

Individual Related WebPages	06294	06295
School Related WebPages	06296	06297
Commercial Related WebPages	06298	06299

OTHER**CD-R / DVD format****Team****Individual****CD-R / DVD format**

Video Game Design - 2D	06300	06301
Video Game Design -3D	06302	06303
Computer assisted tutorial to teach a subject or software	06304	06305
Computer Based Training – Develop an interactive training module	06306	06307
Use a programming language to make a text based interactive program	06308	06309
Use a programming language to make a graphic based interactive program	06310	06311

PHOTOGRAPHY CATEGORY

Items in this category involve projects in which students set-up, shoot, and develop their own photographs for presentation to a specified or general audience.

PHOTOGRAPHS: Photos must be taken by the student unless otherwise noted. Maximum printed size for a single photographic entry is 11 x 14 inches and for multiple photo classifications the size limit is 22 x 28 inches. Each class will be one photograph unless specified.

MOUNTED ENTRIES: Entries cannot be framed except by folded tape or suitable matting material around the perimeter. The complete assembly/mounting material, taped edges, drawings, photos, backing and cover cannot exceed the maximum sheet size identified for the classification. Maximum thickness for single sheet is .125 inches.

COMMERCIALLY processed entries are to be judged on composition only.

Entries that depict sex, drugs, tobacco, gangs, violence, or cults will not be permitted. This does not preclude posters, "etc." that may bring awareness of these and other issues as deemed appropriate by TEA, State Board of Education, and local school policy.

Student Processed - Film is developed by the student in a traditional film processing lab using traditional methods and practices.

Commercially Processed - Film is developed by a professional lab, instore photo lab, or a kiosk film printer in a commercial setting. This includes self-service photo printers in Wal-Mart, CVS, Walgreens, etc...

Digitally Processed - Film is not processed, instead students use computers, docking stations, and printers located in their labs or at home to print the picture.

REQUIRED MINIMUM DOCUMENTATION:

Level 1 - Single Page containing a single descriptive paragraph explaining the design, development, and production of project.

Level 2 - Cover - centered on the page in consecutive lines, the student(s)' name(s), the product name, and school name.

2 page max - Description of product, design process, description of software/hardware used, production process, self-evaluation, etc... (minimum of 1 page in this section)

Documentation can be housed in a 3-ring binder, folder, or plastic page protector.(or the equivalent of listed items)

SINGLE PHOTO ENTRIES

Student Processed			
Commercially Processed			
Digitally Processed			
Action/Motion. Animal, <i>One photograph. B/W</i>	06320	06321	06322
Action/Motion. Animal, <i>One photograph. Color</i>	06323	06324	06325
Action/Motion. Sport, <i>One photograph. B/W</i>	06326	06327	06328
Action/Motion. Sport, <i>One photograph. Color</i>	06329	06330	06331
Aerial. <i>One photograph taken from any aerial perspective. B/W</i>	06332	06333	06334
Aerial. <i>One photograph taken from any aerial perspective. Color</i>	06335	06336	06337
Animal Life. <i>One photograph. B/W</i>	06338	06339	06340
Animal Life. <i>One photograph. Color</i>	06341	06342	06343
Architecture. <i>One photograph. B/W</i>	06344	06345	06346
Architecture. <i>One photograph. Color</i>	06347	06348	06349
Close- Up (Macro) <i>One photograph. B/W</i>	06350	06351	06352
Close- Up (Macro) <i>One photograph. Color</i>	06353	06354	06355
Fashion photography. <i>One photograph of a group or individual. B/W</i>	06356	06357	06358
Fashion photography. <i>One photograph of a group or individual. Color</i>	06359	06360	06361
Journalist Photo - Documentary - one photograph. B/W	06362	06363	06364
Journalist Photo - Documentary - one photograph. Color	06365	06366	06367
Landscape. <i>One photograph. B/W</i>	06368	06369	06370
Landscape. <i>One photograph. Color</i>	06371	06372	06373
Marine. <i>One underwater photograph. BW</i>	06374	06375	06376
Marine. <i>One underwater photograph. Color</i>	06377	06378	06379
Pinhole Photo - One photograph. B/W	06380	06381	06382
Portrait photography. <i>One photograph of a group or individual. B/W</i>	06383	06384	06385
Portrait photography. <i>One photograph of a group or individual. Color</i>	06386	06387	06388
Product photography. One photograph of a single product to be used in sales & advertising B/W	06389	06390	06391
Product photography. One photograph of a single product to be used in sales & advertising Color	06392	06393	06394
Special Effects. <i>One photograph. B/W</i>	06395	06396	06397
Special Effects. <i>One photograph. Color</i>	06398	06399	06400
Still Life. <i>One photograph B/W</i>	06401	06402	06403
Still Life. <i>One photograph Color</i>	06404	06405	06406
Other Photo not listed above	06407	06408	06409

MULTIPLE PHOTO ENTRIES

PHOTOGRAPHS: Photos must be taken by the student unless otherwise noted. Maximum printed size for multiple photo classifications the size limit is 22 x 28 inches. Multiple photos may be mounted or printed as a single sheet up to 22 x 28 inches.

Student Processed			
Commercially Processed			
Digitally Processed			
Journalistic photo essay. <i>Six to twelve photographs mounted to tell a newsworthy story. Titles and brief captions may be used. B/W</i>	06420	06421	06422
Journalistic photo essay. <i>Six to twelve photographs mounted to tell a newsworthy story. Titles and brief captions may be used. Color</i>	06423	06424	06425
Special Effects. <i>Two or more photographs. B/W</i>	06426	06427	06428
Special Effects. <i>Two or more photographs. Color</i>	06429	06430	06431

MULTIPLE PHOTO ENTRIES

PHOTOGRAPHS: Photos must be taken by the student unless otherwise noted. Maximum printed size for multiple photo classifications the size limit is 22 x 28 inches. Multiple photos may be mounted or printed as a single sheet up to 22 x 28 inches.

Student Processed

Commercially Processed

Digitally Processed

Technical process photo-essay. <i>Six to twelve photographs mounted to explain how to do something. Titles and brief captions may be used. B/W</i>	06432	06433	06434
Technical process photo-essay. <i>Six to twelve photographs mounted to explain how to do something. Titles and brief captions may be used. Color</i>	06435	06436	06437
Travel photo-essay. <i>Three to six photographs mounted to share the atmosphere and feel of a place while traveling. B/W</i>	06438	06439	06440
Travel photo-essay. <i>Three to six photographs mounted to share the atmosphere and feel of a place while traveling. Color</i>	06441	06442	06443
Montage - Multiple Photo - BW, Color, or Mix	06444	06445	06446

DRAFTING/CAD CATEGORY

Items in this category involve student created projects in which students created projects using traditional drafting or modern computer aided design standards practices, and methods. This category will be divided into two sections: Engineering and Architectural.

MAXIMUM sheet size in this category is 24 x 36 inches. No limit on number of sheets.

American National Standard Institute (ANSI) Standards of symbols and conventions will be appropriate

DC: 1-1 PRECISION DIMENSIONS: Entries must include such dimensioning practices as: datum line, tolerances, limits, geometric symbols, reference dimensions and BASIC dimensions, but not limited to these examples.

DC: 1-2 DEVELOPMENT AND INTERSECTIONS: Each entry must be accompanied with a model. The suggested material is stiff paper fastened with tape or glue. The model may be painted to appear as metal as desired. The model must be attached to the drawing with tape or glue.

DC: 1-3 FILLETS AND ROUNDS: May be represented only by curved or straight lines on any drawing for clarity.

FREE HAND LETTERING: Is to be used except for CADD and INK drawings. All pencil drawings must have free hand lettering except for preprinted title block and logos.

MULTIPLE SHEETS: Drawing sets should be fastened together along the left edge.

PICTORIAL: Pictorial drawings do not have to be dimensioned.

RENDERING: Rendering or shading permitted only in classifications as noted.

TITLE BLOCK: Title blocks **may** contain the following information: STUDENT NAME, SCHOOL NAME, SCHOOL ADDRESS, UNIQUE STUDENT ID NUMBER, CHAPTER NUMBER, AND CLASSIFICATION NUMBER. NO SCHOOL LOGOS ALLOWED.

STUDENT CREATED LOGOS (NOT ASSOCIATED WITH SCHOOL MASCOT/LOGO IS ALLOWED

At the direction of the TSA Board, drawings can be mounted on an affixed board as long as the outside dimension of the matting does not exceed the drawing size by more than 1/2 " on any edge. For multiple page entries - use the largest drawing size. Blank or Mylar cover sheets are allowed.

The bold face word **CADD** means **CADD ONLY**.

NOTE: ALL MANUAL DRAWINGS CAN BE EITHER PENCIL OR INK.

REQUIRED MINIMUM DOCUMENTATION:

Level 1 - Single Page containing a single descriptive paragraph explaining the design, development, and production of project.

Level 2 - Page 1 - centered on the page in consecutive lines, the unique student ID, Chapter Number, and Classification Number.

1 page max - Description of product, design process, description of software/hardware used, production process, self-evaluation, etc...

2 page max - Sketches, pictures, original drawings used, etc... (minimum of 1 page in this section)

Documentation can be housed in a 3-ring binder, folder, or plastic page protector.(or the equivalent of listed

ENGINEERING GRAPHICS

For the Engineering Section this category: symbols, lettering, and standards should be used as appropriate. Common industrial practices and time savers may be used. Shading, rendering and coloring may be used only in those classifications as noted. Working drawings shall consist of the following: Multi-view drawings with dimensions necessary for manufacture, any other necessary views such as: isometric, sections, exploded views, assembly views, charts, and notes are acceptable.

Team

Individual

Sketch drawing - any mechanical part/parts	.....	07000	NA
Working drawing of single part includes pictorial	.....	07002	NA
Working drawing of single part includes pictorial CADD	.....	07004	NA
Working drawing of single part (Refer to DC-1:1)	.....	07006	NA
Working drawing of single part (Refer to DC-1:1) CADD	.....	07008	NA
Development and intersection drawing (Refer to DC-1:2)	.....	07010	07011
Development and intersection drawing CADD (Refer to DC-1:2)	.....	07012	07013
Working drawings of jigs and fixtures	.....	07014	07015
Working drawings of jigs and fixtures CADD	.....	07016	07017
Working drawing of gears, cams, lever, etc.	.....	07018	07019
Working drawing of gears, cams, lever, etc. CADD	.....	07020	07021
Working drawing: Pipe fabrication (Fluid transportation)	.....	07022	07023
Working drawing: Pipe fabrication (Fluid transportation) CADD	.....	07024	07025

ENGINEERING GRAPHICS

Team

Individual

Working drawings of multiple machine or mechanical 2 - 5 parts	07026	07027
Working drawings of multiple machine or mechanical 2 - 5 parts CADD	07028	07029
Working drawings of multiple machine or mechanical 6 or more parts	07030	07031
Working drawings of multiple machine or mechanical 6 or more parts CADD	07032	07033
Working drawing: Electrical/electronic (Note: NO BUILDING ELECTRICAL WIRING PLAN EXAMPLE: electronic device with a schematic wiring diagram but not limited to this example.)	07034	07035
Working drawing: Electrical/electronic (Note: NO BUILDING ELECTRICAL WIRING PLAN EXAMPLE: electronic device with a schematic wiring diagram but, not limited to this example). CADD	07036	07037
Working drawing of a transportation device	07038	07039
Working drawing of a transportation device CADD	07040	07041
Pictorial Drawing Single Part – no rendering (Refer to DC-1:3)	07042	NA
Pictorial Drawing Single Part – no rendering (Refer to DC-1:3) CADD	07044	NA
Pictorial Drawing of multiple machine or mechanical 2 - 5 parts– no (Refer to DC-1:3)	07046	07047
Pictorial Drawing of multiple machine or mechanical 2 - 5 parts CADD – no rendering (Refer to DC-1:3)	07048	07049
Pictorial Drawing of multiple machine or mechanical 6 or more parts– no rendering (Refer to DC-1:3)	07052	07053
Pictorial Drawing of multiple machine or mechanical 6 or more parts CADD – no rendering (Refer to DC-1:3)	07054	07055
Presentation drawing of a transportation device. (Pencil, Ink, or CADD - NO AIRBRUSH)	07056	07057
Presentation drawing of single part (May be illustrated in any way except airbrush.)	07058	NA
Presentation drawing of single part CADD. ALL WORK MUST BE DONE IN CADD.	07060	NA
Presentation drawing of multiple part (May be illustrated in any way except airbrush.).....2 to 5 parts	07062	07063
Presentation drawing of multiple part CADD. ALL WORK MUST BE DONE IN CADD. 2 to 5 parts	07064	07065
Presentation drawing of multiple part (May be illustrated in any way except airbrush.).....6 or more parts	07066	07067
Presentation drawing of multiple part CADD. ALL WORK MUST BE DONE IN CADD. 6 or more parts	07068	07069
Airbrush Presentation drawing of anything mechanical (Not an architectural category)	07070	07071
Airbrush Presentation drawing of anything mechanical (Not an architectural category) CADD	07072	07073
Working drawings for a Reverse Engineered project Single Part - Documentation must include picture of original object as well as original notes containing measurements obtained using calipers, micrometers, etc...	07074	07075
Working drawings for a Reverse Engineered project Single Part - Documentation must include picture of original object as well as original notes containing measurements obtained using calipers, micrometers, etc... CADD	07075	07076

ENGINEERING GRAPHICS

Team

Individual

Working drawings for a Reverse Engineered project Multiple Part - Documentation must include picture of original object as well as original notes containing measurements obtained using calipers, micrometers, etc...	07078	07079
Working drawings for a Reverse Engineered project Multiple Part - Documentation must include picture of original object as well as original notes containing measurements obtained using calipers, micrometers, etc... CADD	07080	07081

ARCHITECTURAL GRAPHICS

For the Architectural Graphics portion of this section: American Institute of Architects or the Architectural Graphic Standards should be used as needed. Common industrial practices and timesavers may be used. Shading, rendering and coloring may be used only in those classifications as noted. Working drawings shall consist of, but not be limited to the following: Elevations, floor plans, site plans, foundation plans, electrical plans (may be included on the floor plan), necessary details, and specification sheets. Renderings allowed on presentation drawings only.

NOTE: ALL MANUAL DRAWINGS CAN BE EITHER PENCIL OR INK.

ALL FINISH (RENDERING) IS PENCIL UNLESS NOTED. No limit to number of sheets.

THE FOLLOWING CLASSIFICATIONS ARE FOR TEAMS ONLY

Classification

Working drawings of a residential home (Refer to heading for the number of sheets.)	07100
Working drawings of a residential home (Refer to heading for the number of sheets.) CADD	07101
Working drawings of Apartment, Condo, Townhouse, Duplex, etc. (Refer to heading for the number of sheets.)	07102
Working drawings of Apartment, Condo, Townhouse, Duplex, etc. (Refer to heading for the number of sheets.) CADD	07103
Recreational facility (sheets as needed)	07104
Recreational facility (sheets as needed) CADD	07105
Commercial or public structure (sheets as needed)	07106
Commercial or public structure (sheets as needed) CADD	07107
Civil construction: (EXAMPLE: Tunnel, dam, bridge, or transportation systems, etc. sheets as needed)	07108
Civil construction: (EXAMPLE: Tunnel, dam, bridge, or transportation systems, etc. sheets as needed) CADD	07109
Drawing(s) of Space Structure. (Must include a study model)	07110
Drawing(s) of Space Structure. (Must include a study model) CADD	07111
Presentation drawings of Master plan development showing streets, property subdivisions, public use areas, utility locations, easements, contours and development themes.	07112
Presentation drawings of Master plan development showing streets, property subdivisions, public use areas, utility locations, easements, contours and development themes. CADD	07113

ARCHITECTURAL GRAPHICS**THE FOLLOWING CLASSIFICATIONS ARE FOR INDIVIDUALS ONLY****Classification**

Sketch drawing - Any Architectural subject - Shading Allowed - pencil (black & white)	07114
Presentation Sketch drawing - Any Architectural subject - Shading Allowed - (color)	07115
Working drawings of Residential home under 2000 sq. ft HVAC (Refer to headings for the required sheets.)	07116
Working drawings of Residential home under 2000 sq. ft HVAC (Refer to headings for the required sheets.) CADD	07117
Working drawings of Residential home over 2000 sq. ft HVAC (Refer to headings for the required sheets.)	07118
Working drawings of Residential home over 2000 sq. ft HVAC (Refer to headings for the required sheets.) CADD	07119
Working drawings of Residential home Multistory (Refer to headings for the required sheets.)	
Working drawings of Residential home Multistory (Refer to headings for the required sheets.) CADD	

ARCHITECTURAL GRAPHICS**THE FOLLOWING CLASSIFICATIONS ARE FOR INDIVIDUALS ONLY****Classification**

Working drawings of Apartment, Condo, Townhouse, Duplex, etc. (Refer to heading for the number of sheets.) CADD	07120
Working drawings of Apartment, Condo, Townhouse, Duplex, etc. (Refer to heading for the number of sheets.) CADD	07121
Remodeling drawings (number of sheets as needed)	07122
Remodeling drawings (number of sheets as needed) CADD	07123
Construction detailing (All types of typical details that are used in the construction of a building - 1 sheet)	07124
Construction detailing (All types of typical details that are used in the construction of a building - 1 sheet) CADD	07125
Working drawings commercial (number of sheets as needed)	07126
Working drawings commercial (number of sheets as needed) CADD	07127
Civil construction: (EXAMPLE: Tunnel, dam, bridge, or transportation systems, etc. sheets as needed)	07128
Civil construction: (EXAMPLE: Tunnel, dam, bridge, or transportation systems, etc. sheets as needed) CADD	07129
Working Drawing of electrical system Architectural. (EXAMPLE: Phone System, Audio System, Fire Alarm, and Security System. Not Electrical Floor Plan)	07130
Working Drawing of electrical system Architectural. (EXAMPLE: Phone System, Audio System, Fire Alarm, and Security System. Not Electrical Floor Plan) CADD	07131
Recreational facility (sheets as needed)	07132
Recreational facility (sheets as needed) CADD	07133
Drawing(s) of Space Structure. (Must include a study model)	07134
Drawing(s) of Space Structure. (Must include a study model) CADD	07135
Topographic/Surveying drawings (number of sheets as required)	07136
Topographic/Surveying drawings (number of sheets as required) CADD	07137
Architectural Landscape Plan (Number of sheets as needed) Should include underground sprinkler plan.	07138
Architectural Landscape Plan (Number of sheets as needed) Should include underground sprinkler plan. CADD	07139
Presentation drawing (1 sheet) Residential (rendered in any way except Airbrush)	07140

Presentation drawing (1 sheet) Residential (rendering method computer only)	07141
Presentation drawing (1 sheet) Commercial (rendered in any way except Airbrush)	07142
Presentation drawing (1 sheet) Commercial (rendering method computer only)	07143
Presentation drawing (1 sheet) Architectural (Airbrush only)	07144
Presentation drawings of Master plan development showing streets, property subdivisions, public use areas, utility locations, easements, contours and development themes.	07145
Presentation drawings of Master plan development showing streets, property subdivisions, public use areas, utility locations, easements, contours and development themes. CADD	07146
Energy Conservation Design: Must include one or more applications of active, passive earth sheltered, hybrid, envelope, or other energy saving designs elements. (Number of sheets as needed)	07147
Energy Conservation Design: Must include one or more applications of active, passive earth sheltered, hybrid, envelope, or other energy saving designs elements. (Number of sheets as needed) CADD	07148
Working drawings of a Public building (non-commercial use)	07149

CONSTRUCTION, MODELING & DESIGN CATEGORY

Items in this category involve projects in which students created and designed structures, models, used commercial kits, or highlighted the design process.

Judging criteria for production will be based on the following areas: degree of difficulty, appearance, finish, and craftsmanship. Material used is calculated as item as displayed.

MAXIMUM BASE SIZE for models: 30" x 42" (unless otherwise stated)

Model must have hard copy of plan view

REQUIRED MINIMUM DOCUMENTATION:

Level 1 - Single Page containing a single descriptive paragraph explaining the design, development, and production of project.

Level 2 - Cover - centered on the page in consecutive lines, the student(s)' name(s), the product name, and school name.

2 page max - Description of product, design process, description of software/hardware used, production process, self-evaluation, etc... (minimum of 1 page in this section)

3 page max - Sketches, pictures, etc... (minimum of 1 page in this section)

Documentation can be housed in a 3-ring binder, folder, or plastic page protector.(or the equivalent of listed

STRUCTURES

Team

Individual

A full size structure less than 50 square feet	07150	07151
A full size structure over 50 square feet	07152	07153
A multimedia presentation and documentation of a full size structure.	07154	07155

(Only for structures that cannot be transported to contest)

MODELS

This category is for finished models with detailing, full landscaping, sidewalks, trees, cars, people, etc.

Team

Individual

A model of a residential single or multifamily unit		07157
A model of an Apartment, Condo, Townhouse, Duplex, etc.	07158	07159
A scale model of residential structure not previously listed	07160	07161
A model of a Master plan development.	07162	07163
A scale model of a commercial structure	07164	07165
A scale model of a civil structure	07166	07167
A model or display of an automated security or environmental control system	07168	07169
A working model of a subsystem	07170	07171

MODELS

Team

Individual

A model of a space based production system	07172	07173
A model of an automated facility for manufacturing a product	07174	07175
A model of a Recreational facility.	07176	07177
Structural Model Residential home (using appropriate scale, material and keeping with current framing standards)	07178	07179

STUDY MODEL

A study model is similar to the type used by architects for site design and planning. Suggested materials: cardboard, foam board, Styrofoam, paper, plastic, balsa wood, and glue. This model is to be unfinished, no landscaping or finishing methods allowed

All study models are a maximum of 24"x36" unless otherwise specified.

Team

Individual

Study Model Residential	07180	07181
Study Model Commercial	07182	07183
(Removable roof not required.)		

KITS

Entries made from commercial kits.

Team

Individual

Kits—woods	07184	07185
Kits—metals	07186	07187
Kits—Electrical/electronics	07188	07189
Kits—other	07190	07191

DESIGN

Projects will be judged on the basis of design: function, color, texture, balance, etc. The project should be accompanied by data that has (1) complete set of working drawings, (2) a bill of materials, (3) list of all commercially made parts, (4) a statement of design source. A design may not be entirely original, but a clear, complete description of the source of the design is necessary.

Team

Individual		
Design—woods	07192	07193
Design—metals	07194	07195
Design—Electrical/e	07196	07197
Design—other	07198	07199
Design—combination	07200	07201

APPLIED TECHNICAL SCIENCE CATEGORY

DISPLAYS/PORTFOLIOS: The use of photographs, videos, maps, charts, schedules, safety information and other media is encouraged to communicate the message of the entry. The minimum documentation requirement must be an integral part of the display/portfolio and not a separate report.

Entries must be complete and in safe operating condition. All devices and products must be displayed, where feasible, in such a manner as to allow internal inspection of workmanship. High voltage components and potentially dangerous areas must be covered and labeled. The student must provide fire extinguisher and proper shielding of engines.

REQUIRED MINIMUM DOCUMENTATION: NON DISPLAY

Level 1 - Single Page containing a single descriptive paragraph explaining the design, development and production of project.

Level 2 - Cover - centered on the page in consecutive lines, the student(s)' name(s), the product name, school name, and Conference name and date.
 2 pages max - Description of product, design process, description of software/hardware used, production process, self-evaluation, etc... (minimum of 1 page in this section)
 2 pages max - design sketches, working drawings, pictures, technical specs, etc... (minimum of 1 page in this section)
 Documentation can be housed in a 3-ring binder, folder, or plastic page protector.(or the equivalent of listed

MULTIDISCIPLINARY

Team

Individual		
A comprehensive display encompassing selected learning activities interfacing at least two school disciplines. (<i>Math, Science, English, etc.</i>)	08000	08001
A comprehensive display encompassing selected learning activities interfacing more than four school disciplines, (<i>Science, Math, etc.</i>)	08002	n/a

AERODYNAMICS

Develop and produce airfoils for the following. Provide drag and lift test results for each airfoil.

Document the research of the air foil aero dynamics.

Team

Individual

Air foil testing for automobile	08004	n/a
Air foil testing for airplane	08006	n/a
Air foil testing for rockets	08008	n/a
Develop a portfolio that explains the process of flying including checklist for preflight, during flight, post-flight, flight plans and pilot log	08010	n/a
Static display showing principles of flight	08012	08013
Static display showing aircraft parts and their usage	08014	08015

CONSTRUCTION TECHNOLOGY

Home/commercial building - static display of a partial model that demonstrates the use of structural concepts.

Team

Individual

Display the use of construction products, processes, or techniques	08016	08017
A display of a full size construction structure	08018	08019
A display of an organizational chart for a construction company including job descriptions for each position	08020	08021
A display to illustrate the difference 2 or more types of structures	08022	08023
A display of a study of the types, grades, and strength of selected materials used in construction. (Metal, wood, polymers, others)	08024	08025

ELECTRONICS/ELECTRICAL

Team

Individual

A schematic diagram of wiring installations, residential or commercial, must include location, local wiring code and proof of compliance with code	08040	08041
A display of electrical energy storage device	08042	08043
A display of electronic communications devices (radio, TV, telephone etc.)	08044	08045
A display of electronic communication systems	08046	08047
A display of properties of electrical/electronic components, not-semiconductor	08048	08049
A display of properties of electrical/electronic components, semiconductor	08050	08051
A display of applications of electrical robots	08052	08053
Residential Wiring	08054	n/a
Residential Wiring	08056	08057
A schematic diagram of wiring installations, residential or commercial, must include location, local wiring code and proof of compliance with code	08058	08059
Production of electronic motor	08060	08061

ELECTRONICS/ELECTRICAL**Team****Individual**

Production of alarm circuits	08062	08063
Production of audio systems	08064	08065
Production of games/toys	08066	08067
Production of communication device	08068	08069
Production of electrical/electronic testing device	08070	08071
Production of student-made printed circuit boards	08072	08073
Production of logic circuits	08074	08075
A model to display the generation of electrical energy from alternate sources	08076	08077
A model to display the conservation of electrical energy	08078	08079
A model of electrical distribution/transmission	08080	08081
A student fabricated electronic device (non-kit)	08082	08083
Power efficiency study. A display of the test results of a comparison study of electrical usage of at least five different items. Display must include statement of problem to be researched, results should outline electric usage in kWh amps, voltage drop, and time. Research would determine cost of kWh in test area and determine cost use during test time for each item	08084	08085
Computer interfacing and /or instrumentation	08086	08087

ENERGY, POWER, & TRANSPORTATION

Static displays that demonstrate the extraction, processing , transferring , controlling and / or use of the following:

Team**Individual**

Solar energy	08090	08091
Power generation	08092	08093
Electrical energy	08094	08095
Hydraulics	08096	08097
Pneumatics	08098	08099
A display or the application of national safety codes	08100	08101
A display about fuel resource, exploration, extraction, processing and utilization	08102	08103
A display about energy Safety	08104	08105
A display of energy conservation	08106	08107
A display about the generation of electrical energy from fossil fuels	08108	08109
A display about the generation of electrical energy from nuclear fuels	08110	08111
A display about the generation of electrical energy from alternate sources	08112	08113
A display about the application of energy from alternate sources	08114	08115
A display about the conversion of electrical energy into power	08116	08117
A display about distribution of electrical energy	08118	08119
A display about distribution transmission storage of energy	08120	08121

ENERGY, POWER, & TRANSPORTATION

Static displays that demonstrate the extraction, processing , transferring , controlling and / or use of the following:

Team

Individual

A display of the results of a comparison of an energy device which includes problem statement, testing guidelines and identifies the variables. The labeled example must identify the source, transmission and control of energy. (ex: solar cooker)	08122	08123
A display of internal combustion engines to show principle, utilization, restoration, and impact	08124	08125
A display about external combustion engines to show principle, utilization, restoration, and impact	08126	08127
Rebuilt single cylinder engine. List of procedure, bill of parts, and time sheet are Required documentation	08128	08129
External/internal combustion engines - operation and maintenance Running - Maximum 5 horsepower	08130	08131
External/internal combustion engines - operation and maintenance. Static display	08132	08133
Transmission device - operational	08134	08135
A display of principles, utilization and impact of fluid power systems	08136	08137
A display of principles, utilization and impact of mechanical power systems	08138	08139
A display of principles, utilization and impact of power systems	08140	08141
Mechanical/fluid energy power devices - operational and maintenance	08142	08143
A display about a career in the power / energy field	08144	08145
A display about a career in the transportation field	08146	08147
A display about the factors that effect the purchase and use of energy products	08148	08149
A display about the factors that effect the purchase and use of power products	08150	08151
A display about the marketing of power, energy, or transportation product or or service	08152	08153
A display about highway transportation	08154	08155
A display about railway transportation	08156	08157
A display about air or space transportation	08158	08159
A display about pipeline transportation	08160	08161
A display about water transportation	08162	08163
A display of the results of a comparison of an transportation device which includes problem statement, testing guidelines and identifies the variables. The labeled example must identify the source, transmission and control of energy. (ex: air rocket)	08164	08165
A display about the factors that effect the purchase and use of transportation products	08166	08167
Transportation system - industrial, land, air, sea	08168	08169
An application of energy or power to solve a problem	08170	08171

MANUFACTURING**Team****Individual**

A comprehensive display of students assembly and or maintenance of production machines and or equipment.	08172	08173
A display of an organizational chart for a manufacturing company including job descriptions for each position	08174	08175
A display of a study of the types, grades, and strength of selected materials used in manufacturing. (<i>Metal, wood, polymers, others</i>)	08176	08177
A display of several production career opportunities including; (a) employment opportunities, (b) education or training needed, (c) job descriptions, (d) effective methods of securing jobs, and (e) future long term employment outlook	08178	08179
A display of an entrepreneur production venture which must include; (a) minimum, (b) organizational chart, (c) sales forecast, (d) market survey, (e) two product samples	08180	08181
A display to demonstrate computer applications in production systems	08182	08183

MATERIALS**Team****Individual**

A display of materials testing	08184	08185
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ROBOTICS**Team****Individual**

Static display of robotics	08190	08191
Static display of robotics safety	08192	n/a
Portfolio of robotics activity including statement of problem, written program in machine language and pictures / video showing setup	08194	08195
Robotics Program - (<i>Teach pendant method</i>)	08196	n/a
Robotics Program - (<i>computer keyboard method</i>)	08198	n/a

LASERS

A display that demonstrates the use of the light energy through the use of a laser emitting device.

Team**Individual**

Laser generation	08200	08201
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BIOTECH

Activities entered in this classification must have portfolio documenting research in the area and illustrate or explain a method for solving the problem.

Team

Individual

Biotech health portfolio	08202	08203
Display of nanotech technology	08204	08205
Display of Hydroponics technology	08206	08207
Display of ergonomics,	08208	08209
Display of other Biotech research activity	08210	08211

