

Science Fair Judging Rubric

Missing (0)	Poor (60)	Fine (70)	Acceptable (80)	Great (90)	Exemplary (100) *This score is ONLY given if the experiment is above and beyond expectations.
Research & Question					
0 * no research (0) * no question (0)	6 * Research <u>too short</u> (1 sentence), <u>major errors</u> or was <u>copied</u> directly from the source--not in the child's own words. (3) * <u>Original question sorta answered/mostly skipped.</u> (3)	7 * Research <u>missing parts</u> , but overall good effort (4) * Student <u>answers the original question but is very brief or doesn't make sense.</u> (3)	8 * Research <u>paragraph well done.</u> <u>Missing IV or DV</u> , but overall shows good effort (4) * Student <u>answers the original question with only minor errors.</u> (4)	9 * Research <u>paragraph well done.</u> <u>Includes: IV, DV.</u> References are listed either as parenthetical or full references. (5) * Student <u>answers the original question.</u> (4)	10 * Research <u>paragraph complete.</u> <u>Includes: IV, DV and control.</u> Parenthetical references and full references. (5) * <u>Original question answered thoroughly, identifies who is directly impacted.</u> (5)
Design & Methodology					
0 *no methodology-good science practices are ignored and or <u>major safety issues.</u> *see below (0) * <u>no scientific design</u> (I just did this weird thing and don't have any clue why.) (0)	9 * <u>Plan is not well thought out</u> or was done too quickly to get good data. (5) *Student has a <u>thought statement</u> (I think it will do this.) without IV, DV or a control (4)	10.5 * <u>Plan was attempted and shows good effort</u> by the student, with <i>minor errors</i> . (5.5) * <u>Hypothesis, IV and DV has missing parts</u> but can be explained by student. (5)	12 * <u>Plan was attempted and shows good effort</u> by the student. (6) * <u>Hypothesis, IV and DV may not be explicitly stated</u> , but is explained by student. (6)	13.5 * <u>Well designed plan with collection methods showing good effort</u> (7) * <u>Hypothesis, IV and DV listed and explained</u> by student. (6.5)	15 * <u>Well designed plan, proper collection methods</u> No contaminated samples. (8) * <u>Hypothesis, IV, DV and Control clearly listed with measurable units</u> and explained by the student. (7)
Execution, Data Collection, Analysis & Interpretation					
0 *Student data is <u>missing or made up</u> (0) *Student graph is missing (0)	12 *Student has <u>one trial</u> or very few data points, but effort is evident. (6) *Student graph is <u>incorrect according to the data, many errors</u> or student has a conclusion that doesn't match the data. (6)	14 *Student <u>has some trials</u> but may not be clearly defined (7) * <u>Student graph is mostly correct according to the data, but may have a few errors and a somewhat correct conclusion.</u> (7)	16 *Student <u>has trials of each: IV, DV and Control</u> (8) * <u>Student graph is correct according to the data and a mostly correct conclusion.</u> (8)	18 *Student has <u>multiple trials of each: IV, DV and Control</u> (9) * <u>Student graph is correct according to the data and has a Correct conclusion.</u> (9)	20 *Student has a <u>minimum of 45 trials</u> (15 of each: IV, DV and Control) (10) * <u>Student graph is correct and has correct conclusion according to what the data.</u> Identifies importance to others. Student addresses outliers (10)

Creativity					
0	12	14	16	18	20
<ul style="list-style-type: none"> ★ Directly copied experiments from a website will not receive creativity points unless the student is able to explain that they have altered the experiment. **See examples card 	<ul style="list-style-type: none"> ★ Project or approach to project is <u>student/parent driven</u>. (6) ★ Student <u>didn't seek</u> out help and mostly repeated what's been done before. (6) 	<ul style="list-style-type: none"> ★ Project or approach to project is <u>student/parent driven</u>. (7) ★ Student <u>sought out some</u> help but not from anyone in the correct field. (7) 	<ul style="list-style-type: none"> ★ Project or approach to project is <u>somewhat student driven</u>. (8) ★ Student <u>sought out</u> help from other experts (8) 	<ul style="list-style-type: none"> ★ Project or approach to project is <u>mostly student driven</u>. (9) ★ Student <u>actively sought out</u> help from other experts in the correct field. (9) 	<ul style="list-style-type: none"> ★ Project or approach to project is clearly <u>student driven</u>. (10) ★ Student <u>actively sought out</u> help from other experts in the correct field. <u>Unique</u>. (10)
Poster					
0	6	7	8	9	10
<ul style="list-style-type: none"> ★ Clearly a lack of effort. (0) ★ Poster lacks science steps, is plagiarized, (Is a hazard to society and possibly becoming sentient.) (0) 	<ul style="list-style-type: none"> ★ Effort was made...but the poster is growing something. (3) ★ Poster is <u>missing many</u> of the following: Question, Hypothesis, IV, DV, Control, Research Paragraph, Materials, Procedures, Data Table, Graph, Conclusion or Analysis, References. (3) 	<ul style="list-style-type: none"> ★ Effort was made...but the poster is growing something. (4) ★ Poster has <u>some</u> of the following: Question, Hypothesis, IV, DV, Control, Research Paragraph, Materials, Procedures, Data Table, Graph, Conclusion or Analysis, References. but it may be out of order. (3) 	<ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (4) ★ Poster has <u>most</u> of the following: Question, Hypothesis, IV, DV, Control, Research Paragraph, Materials, Procedures, Data Table, Graph, Conclusion or Analysis, References.(4) 	<ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (5) ★ Poster has <u>all</u> of the following: Question, Hypothesis, IV, DV, Control, Research Paragraph, Materials, Procedures, Data Table, Graph, Conclusion or Analysis, References.(4) 	<ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (5) ★ Poster has all of the following <u>well ordered</u>: Question, Hypothesis, IV, DV, Control, Research Paragraph, Materials, Procedures, Data Table, Graph, Conclusion or Analysis, References.(5)
Interview					
0	15	17.5	20	22.5	25
<ul style="list-style-type: none"> ★ No interview was provided. (0) ★ Student is silly, disrespectful or has a <u>clear expectation of a prize without the work</u> (0) ★ Student answers, "I don't know." without any thought to the actual question. 	<ul style="list-style-type: none"> ★ Student is missing many of the sections listed above.(8) ★ Student <u>path through the project is out of order</u> or doesn't make sense (i.e., talked about the conclusion before the hypothesis.) (7) ★ student doesn't try to answer questions or states, "I don't know." 	<ul style="list-style-type: none"> ★ Student covers <u>some</u> of the sections listed above.(9.5) ★ Student <u>somewhat follows a path</u> through the project. (8) ★ student doesn't really answer questions or states, "I don't know." 	<ul style="list-style-type: none"> ★ Student covers <u>most</u> of the sections listed above.(10) ★ Student follows a <u>clear path</u> through the project. (10) ★ student sort of tries to answer questions or states, "I don't know." 	<ul style="list-style-type: none"> ★ Student covers <u>all</u> of the sections listed above.(11.5) ★ Student follows a <u>clear path</u> and is <u>professionally</u> able to provide evidence of <u>critical thinking</u> skills to explain how this project will <u>impact others</u>. (11) ★ student attempts to answer questions or states, "I don't know, that sounds like something to add to my research." 	<ul style="list-style-type: none"> ★ Student covers <u>all</u> of the sections listed above.(13) ★ Follows a <u>clear progressive ordered professional path</u>. Shows <u>critical thinking skills</u>. Explains <u>world impact</u>. (12) ★ student attempts to answer questions or states, "I don't know, that sounds like something to add to my research."

Engineering Fair Judging Rubric

Missing (0)	Poor (60)	Fine (70)	Acceptable (80)	Great (90)	Exemplary (100) *This score is ONLY given if the experiment is above and beyond expectations.
Research & Question					
0 * no research (0) * no question (0)	6 * Research <u>too short</u> (1 sentence), <u>major errors</u> or was <u>copied</u> directly from the source--not in the child's own words. (3) * <u>Original need sorta answered/mostly skipped.</u> (3)	7 * Research <u>missing parts</u> , but overall good effort (4) * Student <u>answers the original need</u> but is <u>very brief</u> or <u>doesn't make sense.</u> (3)	8 * Research <u>paragraph well done.</u> <u>Missing prior designs</u> , but overall shows good effort (4) * Student <u>answers the original need with only minor errors.</u> (4)	9 * Research <u>paragraph well done</u> , <u>Includes: prior designs</u> References are listed either as parenthetical or full references. (5) * Student <u>answers the original need.</u> (4)	10 * Research <u>paragraph complete</u> , <u>Includes: prior designs.</u> Parenthetical references and full references. (5) * <u>Original need answered thoroughly, identifies who is directly impacted.</u> (5)
Design & Methodology					
0 *no methodology-good science practices are ignored and or <u>major safety issues.</u> *see below (0) * <u>no scientific design</u> (I just did this weird thing and don't have any clue why.) (0)	9 * <u>Plan is not well thought out</u> or was done too quickly to get good data. (5) * <u>Preliminary design is a bit messy.</u> Student <u>can't explain</u> the design. (4)	10.5 * <u>Plan was attempted and shows good effort</u> by the student, with <u>minor errors.</u> (5.5) * <u>Preliminary design is messy.</u> Student can <u>somewhat explain</u> the design. (5)	12 * <u>Plan was attempted and shows good effort</u> by the student. (6) * <u>Preliminary design is messy</u> , but is <u>explained</u> by student. (6)	13.5 * <u>Well designed plan with collection methods showing good effort</u> (7) * <u>Preliminary design well thought out and explained</u> by student. (6.5)	15 * <u>Well designed plan, proper collection methods</u> No contaminated samples. (8) * <u>Preliminary design well thought out, understood and explained</u> by the student. (7)
Execution, Construction & Testing					
0 *Student data is missing or made up (0) *Student didn't build anything (0)	12 *Student has a <u>build and test</u> (6) *Student did not complete a rebuild, but <u>can somewhat explain improvements.</u> (6)	14 *Student has a <u>build and test</u> (7) *Student did not complete a rebuild, but <u>can explain improvements.</u> (7)	16 *Student has a <u>build and test AND a rebuild retest</u> that are <u>mostly relevant</u> to each other (8) *Student <u>obtained data from the build to but didn't improve the design</u> (8)	18 *Student has a <u>build and test AND a rebuild retest</u> that are relevant to each other (9) *Student <u>obtained data</u> from the build to improve the design. (9)	20 *Student has a <u>build and test AND a rebuild retest</u> that are relevant and improves the design (10) *Student <u>obtained data</u> from the build to improve the design. Able to relate design to <u>world impact.</u> (10)

Creativity					
0	12	14	16	18	20
<ul style="list-style-type: none"> ★ Directly copied experiments from a website will not receive creativity points unless the student is able to explain that they have altered the experiment. **See examples card 	<ul style="list-style-type: none"> ★Project or approach to project is <u>student/parent driven</u>. (6) ★Student <u>didn't seek</u> out help and mostly repeated what's been done before. (6) 	<ul style="list-style-type: none"> ★Project or approach to project is <u>student/parent driven</u>. (7) ★Student <u>sought out some</u> help but not from anyone in the correct field. (7) 	<ul style="list-style-type: none"> ★Project or approach to project is <u>somewhat student driven</u>. (8) ★Student <u>sought out</u> help from other experts (8) 	<ul style="list-style-type: none"> ★Project or approach to project is <u>mostly student driven</u>. (9) ★Student <u>actively sought out</u> help from other experts in the correct field. (9) 	<ul style="list-style-type: none"> ★Project or approach to project is clearly <u>student driven</u>. (10) ★Student <u>actively sought out</u> help from other experts in the correct field. <u>Unique</u>. (10)
Poster					
0	6	7	8	9	10
<ul style="list-style-type: none"> ★ Clearly a lack of effort. (0) ★Poster lacks science steps, is plagiarized, (Is a hazard to society and possibly becoming sentient.) (0) 	<ul style="list-style-type: none"> ★ Effort was made...but the poster is growing something. (3) ★Poster is <u>missing many</u> of the following: Problem/Need Defined, Research Paragraph, Design Instructions (with materials), Preliminary Design, Build and Test, Rebuild and Retest, (Graph and Data Table IF relevant- not required) Conclusion or Analysis, References. (3) 	<ul style="list-style-type: none"> ★ Effort was made...but the poster is growing something. (4) ★Poster has <u>some</u> of the following: Problem/Need Defined, Research Paragraph, Design Instructions (with materials), Preliminary Design, Build and Test, Rebuild and Retest, (Graph and Data Table IF relevant- not required) Conclusion or Analysis, References. but it may be out of order. (3) 	<ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (4) ★Poster has <u>most</u> of the following: Problem/Need Defined, Research Paragraph, Design Instructions (with materials), Preliminary Design, Build and Test, Rebuild and Retest, (Graph and Data Table IF relevant- not required) Conclusion or Analysis, References.(4) 	<ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (5) ★Poster has <u>all</u> of the following: Problem/Need Defined, Research Paragraph, Design Instructions (with materials), Preliminary Design, Build and Test, Rebuild and Retest, (Graph and Data Table IF relevant- not required) Conclusion or Analysis, References.(4) 	<ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (5) ★Poster has all of the following <u>well ordered</u>: Problem/Need Defined, Research Paragraph, Design Instructions (with materials), Preliminary Design, Build and Test, Rebuild and Retest, (Graph and Data Table IF relevant- not required) Conclusion or Analysis, References. (5)
Interview					
0	15	17.5	20	22.5	25
<ul style="list-style-type: none"> ★No interview was provided. (0) ★Student is silly, disrespectful or has a <u>clear expectation of a prize without the work</u> (0) ★Student answers, "I don't know." without any thought to the actual question. 	<ul style="list-style-type: none"> ★Student is missing many of the sections listed above.(8) ★Student <u>path through the project is out of order</u> or doesn't make sense (i.e., talked about the conclusion before the hypothesis.) (7) ★student <u>doesn't try</u> to answer questions or states, "I don't know." 	<ul style="list-style-type: none"> ★Student covers <u>some</u> of the sections listed above.(9.5) ★Student <u>somewhat follows a path</u> through the project. (8) ★student <u>doesn't really answer</u> questions or states, "I don't know." 	<ul style="list-style-type: none"> ★Student covers <u>most</u> of the sections listed above.(10) ★Student follows a <u>clear path</u> through the project. (10) ★student <u>sort of tries</u> to answer questions or states, "I don't know." 	<ul style="list-style-type: none"> ★Student covers <u>all</u> of the sections listed above.(11.5) ★Student follows a <u>clear path</u> and is <u>professionally</u> able to provide evidence of <u>critical thinking skills</u> to explain how this project will <u>impact others</u>. (11) ★student <u>attempts to answer</u> questions or states, "I don't know, that sounds like something to add to my next design." 	<ul style="list-style-type: none"> ★Student covers <u>all</u> of the sections listed above.(13) ★Follows a <u>clear progressive ordered professional path</u>. Shows <u>critical thinking skills</u>. Explains <u>world impact</u>. (12) ★student <u>attempts to answer</u> questions or states, "I don't know, that sounds like something to add to my next design."

***Major Safety Issues Include:**

Human Studies without permission paperwork. (Psychology experiments-- nice cupcake/ugly cupcake, read the color not the word)

Animal Studies without a mentoring veterinarian. (Paw preference.)

Use of harsh chemicals and/or bacteria growth without a proper lab. (I grew mold in my kitchen.)

Failure to follow safety guidelines - goggles/safety glasses were needed but not used.

**** Examples of projects that are directly copied from a website:**

Popcorn Seeds: Frozen/Refrigerated and Not which one pops better.

Building Bridges with spaghetti and marshmallows.

The maximum score a student can receive is 10.

Elementary students are expected to have **2 or more** research sources.

Secondary students are expected to have **4 or more** research sources.

10 ←

- ★ Research (5)
- ★ Question (5)

Total number of points that can be received in this section.

How the points are subdivided.



Research & Question

Missing	Poor	Fine	Acceptable	Great	Exemplary
<p>0</p> <ul style="list-style-type: none"> ★ no research (0) ★ no question (0) 	<p>6</p> <ul style="list-style-type: none"> ★ Research <u>too short</u> (1 sentence), <u>major errors</u> or was <u>copied</u> directly from the source--not in the child's own words. (3) ★ <u>Original question</u> sorta answered/mostly <u>skipped</u>. (3) 	<p>7</p> <ul style="list-style-type: none"> ★ Research <u>missing parts</u>, but overall good effort (4) ★ Student <u>answers the original question</u> but is <u>very brief</u> or <u>doesn't make sense</u>. (3) 	<p>8</p> <ul style="list-style-type: none"> ★ Research <u>paragraph well done</u>. <u>Missing IV or DV</u>, but overall shows good effort (4) ★ Student <u>answers the original question</u> with <u>only minor errors</u>. (4) 	<p>9</p> <ul style="list-style-type: none"> ★ Research <u>paragraph well done</u>, <u>Includes: IV, DV</u>. References are listed either as parenthetical or full references. (5) ★ Student <u>answers the original question</u>. (4) 	<p>10</p> <ul style="list-style-type: none"> ★ Research <u>paragraph complete</u>, <u>Includes: IV, DV and control</u>. Parenthetical references and full references. (5) ★ <u>Original question answered thoroughly</u>, <u>identifies who is directly impacted</u>. (5)

The maximum score a student can receive is 15.

IV: Independent Variable. (What was changed.)

DV: Dependent Variable (What was measured as a result of the change.)

Hypothesis: If I change IV it will cause DV *because...*

15 ←

- ★ Design (8)
- ★ Methodology (7)

Total number of points that can be received in this section.

How the points are subdivided.



Design & Methodology

Missing	Poor	Fine	Acceptable	Great	Exemplary
<p>0</p> <p>★no methodology-good science practices are ignored and or <u>major safety issues</u>. *see below (0)</p> <p>★<u>no scientific design</u> (I just did this weird thing and don't have any clue why.) (0)</p>	<p>9</p> <p>★<u>Plan is not well thought out</u> or was done too quickly to get good data. (5)</p> <p>★Student has a <u>thought statement</u> (I think it will do this.) without IV, DV or a control (4)</p>	<p>10.5</p> <p>★<u>Plan was attempted and shows good effort</u> by the student, with <i>minor errors</i>. (5.5)</p> <p>★<u>Hypothesis, IV and DV has missing parts</u> but can be explained by student. (5)</p>	<p>12</p> <p>★<u>Plan was attempted and shows good effort</u> by the student. (6)</p> <p>★ <u>Hypothesis, IV and DV may not be explicitly stated</u>, but is explained by student. (6)</p>	<p>13.5</p> <p>★<u>Well designed plan with collection methods showing good effort</u> (7)</p> <p>★<u>Hypothesis, IV and DV listed and explained</u> by student. (6.5)</p>	<p>15</p> <p>★<u>Well designed plan, proper collection methods</u> No contaminated samples. (8)</p> <p>★ <u>Hypothesis, IV, DV and Control clearly listed with measurable units</u> and explained by the student. (7)</p>

The maximum score a student can receive is 20.

Data shows both qualitative and quantitative information?

Qualitative: observations, notes, drawings, doodles.

Quantitative: numbers, values, math.

20 ←

- ★ Data (10)
- ★ Analysis/ Conclusion (10)

Total number of points that can be received in this section.

How the points are subdivided.



Execution, Data Collection, Analysis & Interpretation

Missing	Poor	Fine	Acceptable	Great	Exemplary
<p>0</p> <ul style="list-style-type: none"> ★Student data is <u>missing or made up</u> (0) ★Student graph is missing (0) 	<p>12</p> <ul style="list-style-type: none"> ★Student has <u>one trial</u> or very few data points, but effort is evident. (6) ★Student graph is <u>incorrect according to the data, many errors</u> or student has a conclusion that doesn't match the data. (6) 	<p>14</p> <ul style="list-style-type: none"> ★Student <u>has some trials</u> but may not be clearly defined (7) ★<u>Student graph is mostly correct according to the data, but may have a few errors and a somewhat correct conclusion.</u> (7) 	<p>16</p> <ul style="list-style-type: none"> ★Student <u>has trials of each: IV, DV and Control</u> (8) ★<u>Student graph is correct according to the data and a mostly correct conclusion.</u> (8) 	<p>18</p> <ul style="list-style-type: none"> ★Student has <u>multiple trials of each: IV, DV and Control</u> (9) ★ <u>Student graph is correct according to the data and has a Correct conclusion.</u> (9) 	<p>20</p> <ul style="list-style-type: none"> ★Student has a <u>minimum of 45 trials</u> (15 of each: IV, DV and Control) (10) ★<u>Student graph is correct and has correct conclusion according to what the data.</u> Identifies importance to others. Student addresses outliers (10)

Creativity

The maximum score a student can receive is 20.

Is the project unique?

Is the approach unique (not copied from online)?

Did the student seek out and talk to experts in the correct field?

20

- ★ Approach (10)
- ★ Experts (10)

Total number of points that can be received in this section.

How the points are subdivided.



Creativity

Missing	Poor	Fine	Acceptable	Great	Exemplary
0 ★ Directly copied experiments from a website will not receive creativity points unless the student is able to explain that they have altered the experiment.	12 ★Project or approach to project is <u>student/parent driven</u> . (6) ★Student <u>didn't seek</u> out help and mostly repeated what's been done before. (6)	14 ★Project or approach to project is <u>student/parent driven</u> . (7) ★Student <u>sought out some</u> help but not from anyone in the correct field. (7)	16 ★Project or approach to project is <u>somewhat student driven</u> . (8) ★Student <u>sought out</u> help from other experts (8)	18 ★Project or approach to project is <u>mostly student driven</u> . (9) ★Student <u>actively sought out</u> help from other experts in the correct field. (9)	20 ★Project or approach to project is clearly <u>student driven</u> . (10) ★Student <u>actively sought out</u> help from other experts in the correct field. <u>Unique</u> . (10)

The maximum score a student can receive is 10.

Expected Sections: Question, Hypothesis, IV, DV, Control, Research Paragraph, Materials, Procedures, Data Table, Graph, Conclusion or Analysis, References.

10 ←

- ★ Design (5)
- ★ Order (5)

Total number of points that can be received in this section.

How the points are subdivided.



Poster

Missing	Poor	Fine	Acceptable	Great	Exemplary
0 ★ Clearly a lack of effort. (0) ★Poster lacks science steps, is plagiarized, (Is a hazard to society and possibly becoming sentient.) (0)	6 ★ Effort was made...but the poster is growing something. (3) ★Poster is <u>missing many</u> of the expected sections. (3)	7 ★ Effort was made...but the poster is growing something. (4) ★Poster has <u>some</u> of the expected sections. but it may be out of order. (3)	8 ★ Effort was made and the poster is well put together. (4) ★Poster has <u>most</u> of the expected sections.(4)	9 ★ Effort was made and the poster is well put together. (5) ★Poster has <u>all</u> of the expected sections.(4)	10 ★ Effort was made and the poster is well put together. (5) ★Poster has all of the expected sections <u>well ordered</u> .(5)

The maximum score a student can receive is 25.

25

- ★ Sections Covered (13)
- ★ Professional path (12)

Total number of points that can be received in this section.

How the points are subdivided.



Interview

Missing	Poor	Fine	Acceptable	Great	Exemplary
<p>0</p> <p>★No interview was provided. (0)</p> <p>★Student is silly, disrespectful or has a <u>clear expectation of a prize without the work</u> (0)</p> <p>★Student answers, “I don’t know.” without any thought to the actual question.</p>	<p>15</p> <p>★Student is missing many of the sections listed above.(8)</p> <p>★Student <u>path through the project is out of order</u> or doesn’t make sense (i.e., talked about the conclusion before the hypothesis.) (7)</p> <p>★student <u>doesn’t try</u> to answer questions or states, “I don’t know.”</p>	<p>17.5</p> <p>★Student covers <u>some</u> of the sections listed above.(9.5)</p> <p>★Student <u>somewhat follows a path</u> through the project. (8)</p> <p>★student <u>doesn’t really</u> answer questions or states, “I don’t know.”</p>	<p>20</p> <p>★Student covers <u>most</u> of the sections listed above.(10)</p> <p>★Student follows a <u>clear path</u> through the project. (10)</p> <p>★student <u>sort of tries</u> to answer questions or states, “I don’t know.”</p>	<p>22.5</p> <p>★Student covers <u>all</u> of the sections listed above.(11.5)</p> <p>★Student follows a <u>clear path</u> and is <u>professionally</u> able to provide evidence of <u>critical thinking</u> skills to explain how this project will <u>impact others</u>. (11)</p> <p>★student <u>attempts to answer</u> questions or states, “I don’t know, that sounds like something to add to my next design.”</p>	<p>25</p> <p>★Student covers <u>all</u> of the sections listed above.(13)</p> <p>★Follows a <u>clear progressive ordered professional path</u>. Shows <u>critical thinking skills</u>. Explains <u>world impact</u>. (12)</p> <p>★student <u>attempts to answer</u> questions or states, “I don’t know, that sounds like something to add to my next design.”</p>

The maximum score a student can receive is 10.

Elementary students are expected to have **2 or more** research sources.

Secondary students are expected to have **4 or more** research sources.

10 ←

- ★ Research (5)
- ★ Question (5)

Total number of points that can be received in this section.

How the points are subdivided.



Research & Question

Missing	Poor	Fine	Acceptable	Great	Exemplary
0 ★ no research (0) ★ no question (0)	6 ★ Research <u>too short</u> (1 sentence), <u>major errors or was copied</u> directly from the source--not in the child's own words. (3) ★ <u>Original need sorta answered/mostly skipped.</u> (3)	7 ★ Research <u>missing parts</u> , but overall good effort (4) ★ Student <u>answers the original need but is very brief or doesn't make sense.</u> (3)	8 ★ Research <u>paragraph well done. Missing prior designs</u> , but overall shows good effort (4) ★ Student <u>answers the original need with only minor errors.</u> (4)	9 ★ Research <u>paragraph well done, Includes: prior designs</u> References are listed either as parenthetical or full references. (5) ★ Student <u>answers the original need.</u> (4)	10 ★ Research <u>paragraph complete, Includes: prior designs.</u> Parenthetical references and full references. (5) ★ <u>Original need answered thoroughly, identifies who is directly impacted.</u> (5)

The maximum score a student can receive is 15.

The student designs a well thought out plan to follow, and follows the plan adjusting it as needed.

15 ←

- ★ Design (8)
- ★ Methodology (7)

Total number of points that can be received in this section.

How the points are subdivided.



Design & Methodology

Missing	Poor	Fine	Acceptable	Great	Exemplary
<p>0</p> <p>★no methodology-good science practices are ignored and or <u>major safety issues</u>. *see below (0)</p> <p>★<u>no scientific design</u> (I just did this weird thing and don't have any clue why.) (0)</p>	<p>9</p> <p>★<u>Plan is not well thought out</u> or was done too quickly to get good data. (5)</p> <p>★<u>Preliminary design is a bit messy</u>. Student can't explain the design. (4)</p>	<p>10.5</p> <p>★<u>Plan was attempted and shows good effort</u> by the student, with <i>minor errors</i>. (5.5)</p> <p>★<u>Preliminary design is messy</u>. Student can <u>somewhat explain</u> the design. (5)</p>	<p>12</p> <p>★<u>Plan was attempted and shows good effort</u> by the student. (6)</p> <p>★ <u>Preliminary design is messy</u>, but is <u>explained</u> by student. (6)</p>	<p>13.5</p> <p>★<u>Well designed plan with collection methods showing good effort</u> (7)</p> <p>★<u>Preliminary design well thought out and explained</u> by student. (6.5)</p>	<p>15</p> <p>★<u>Well designed plan, proper collection methods</u> No contaminated samples. (8)</p> <p>★ <u>Preliminary design well thought out, understood and explained</u> by the student. (7)</p>

The maximum score a student can receive is 20.

Did the student test the design and improve the design?

20 ←

- ★ Build/Test (10)
- ★ Data/Improvements (10)

Total number of points that can be received in this section.

How the points are subdivided.



Execution, Construction & Testing

Missing	Poor	Fine	Acceptable	Great	Exemplary
0 ★Student data is missing or made up (0) ★Student didn't build anything (0)	12 ★Student has a <u>build and test</u> (6) ★Student did not complete a rebuild, but <u>can somewhat explain improvements.</u> (6)	14 ★Student has a <u>build and test</u> (7) ★Student did not complete a rebuild, but <u>can explain improvements.</u> (7)	16 ★Student has a <u>build and test AND a rebuild retest</u> that are <u>mostly relevant</u> to each other (8) ★Student <u>obtained data from the build to but didn't improve the design</u> (8)	18 ★Student has a <u>build and test AND a rebuild retest</u> that are relevant to each other (9) ★Student <u>obtained data from the build to improve the design.</u> (9)	20 ★Student has a <u>build and test AND a rebuild retest</u> that are relevant and improves the design (10) ★Student <u>obtained data from the build to improve the design. Able to relate design to world impact.</u> (10)

Creativity

The maximum score a student can receive is 20.

Is the project unique?

Is the approach unique (not copied from online)?

Did the student seek out and talk to experts in the correct field?

20

- ★ Approach (10)
- ★ Experts (10)

Total number of points that can be received in this section.

How the points are subdivided.



Creativity

Missing	Poor	Fine	Acceptable	Great	Exemplary
0 ★ Directly copied experiments from a website will not receive creativity points unless the student is able to explain that they have altered the experiment.	12 ★Project or approach to project is <u>student/parent driven</u> . (6) ★Student <u>didn't seek</u> out help and mostly repeated what's been done before. (6)	14 ★Project or approach to project is <u>student/parent driven</u> . (7) ★Student <u>sought out some</u> help but not from anyone in the correct field. (7)	16 ★Project or approach to project is <u>somewhat student driven</u> . (8) ★Student <u>sought out</u> help from other experts (8)	18 ★Project or approach to project is <u>mostly student driven</u> . (9) ★Student <u>actively sought out</u> help from other experts in the correct field. (9)	20 ★Project or approach to project is clearly <u>student driven</u> . (10) ★Student <u>actively sought out</u> help from other experts in the correct field. <u>Unique</u> . (10)

The maximum score a student can receive is 10.

Expected Sections: Problem/Need Defined, Research Paragraph, Design Instructions (with materials), Preliminary Design, Build and Test, Rebuild and Retest, (Graph and Data Table IF relevant- not required) Conclusion or Analysis, References.

10 ←

- ★ Design (5)
- ★ Order (5)

Total number of points that can be received in this section.

How the points are subdivided.



Poster

Missing	Poor	Fine	Acceptable	Great	Exemplary
<p>0</p> <ul style="list-style-type: none"> ★ Clearly a lack of effort. (0) ★ Poster lacks science steps, is plagiarized, (Is a hazard to society and possibly becoming sentient.) (0) 	<p>6</p> <ul style="list-style-type: none"> ★ Effort was made...but the poster is growing something. (3) ★ Poster is <u>missing many</u> of the expected sections. (3) 	<p>7</p> <ul style="list-style-type: none"> ★ Effort was made...but the poster is growing something. (4) ★ Poster has <u>some</u> of the expected sections. but it may be out of order. (3) 	<p>8</p> <ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (4) ★ Poster has <u>most</u> of the expected sections.(4) 	<p>9</p> <ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (5) ★ Poster has <u>all</u> of the expected sections.(4) 	<p>10</p> <ul style="list-style-type: none"> ★ Effort was made and the poster is well put together. (5) ★ Poster has all of the expected sections <u>well ordered</u>.(5)

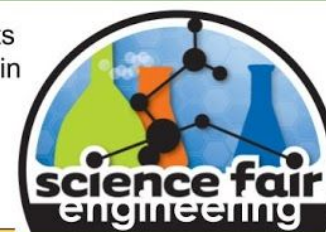
The maximum score a student can receive is 25.

25

- ★ Sections Covered (13)
- ★ Professional path (12)

Total number of points that can be received in this section.

How the points are subdivided.



Interview

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<p>0</p> <p>★No interview was provided. (0)</p> <p>★Student is silly, disrespectful or has a <u>clear expectation of a prize without the work</u> (0)</p> <p>★Student answers, “I don’t know.” without any thought to the actual question.</p>	<p>15</p> <p>★Student is missing many of the sections listed above.(8)</p> <p>★Student <u>path through the project is out of order</u> or doesn’t make sense (i.e., talked about the conclusion before the hypothesis.) (7)</p> <p>★student <u>doesn’t try to answer</u> questions or states, “I don’t know.”</p>	<p>17.5</p> <p>★Student covers <u>some</u> of the sections listed above.(9.5)</p> <p>★Student <u>somewhat follows a path</u> through the project. (8)</p> <p>★student <u>doesn’t really answer</u> questions or states, “I don’t know.”</p>	<p>20</p> <p>★Student covers <u>most</u> of the sections listed above.(10)</p> <p>★Student follows a <u>clear path</u> through the project. (10)</p> <p>★student <u>sort of tries to answer</u> questions or states, “I don’t know.”</p>	<p>22.5</p> <p>★Student covers <u>all</u> of the sections listed above.(11.5)</p> <p>★Student follows a <u>clear path</u> and is <u>professionally</u> able to provide evidence of <u>critical thinking</u> skills to explain how this project will <u>impact others</u>. (11)</p> <p>★student <u>attempts to answer</u> questions or states, “I don’t know, that sounds like something to add to my next design.”</p>	<p>25</p> <p>★Student covers <u>all</u> of the sections listed above.(13)</p> <p>★Follows a <u>clear progressive ordered professional path</u>. Shows <u>critical thinking skills</u>. Explains <u>world impact</u>. (12)</p> <p>★student <u>attempts to answer</u> questions or states, “I don’t know, that sounds like something to add to my next design.”</p>