Animals: small animals, aquaculture, livestock, dairy, horses and/or poultry
Examples:
- compare nutrient levels on animal growth
- research new disease control mechanisms
- effects of estrous synchronization on ovulation
- compare effects of thawing temperatures on livestock semen
- effects of growth hormone on meat/milk production

Natural Resources: Soil, Water, Wildlife, Forest, and Air
Examples:
- effect of agricultural chemicals on water quality
- effects of cropping practices on wildlife populations
- compare water movements through different soil types
Food Products and Processing Systems

Study of:
- Product Development
- Quality Assurance
- Food Safety
- Production
- Sales and Services
- Regulation and Compliance
- Food Services

Examples:
- effects of packaging techniques on food spoilage rates
- resistance of organic fruits to common diseases
- determining chemical energy stored in foods
- control of molds on bakery products

Plant Systems

Study of Plant:
- Life Cycles
- Classifications
- Functions
- Structures
- Reproduction
- Media and Nutrients
- Growth and Cultural Practices

Plants: Crops, Turf Grass, Trees, Shrubs and Ornamental Plants
PST: Woodworking, Metalworking, Welding and Project Planning for Agricultural Structures

- Develop alternate energy source engines
- Create minimum energy use structures
- Compare properties of various alternative insulation products
- Investigation of light/wind/water energy sources

Social Science Applications: Agriculture, Food and Natural Resources

- Investigate perceptions of community members towards alternative agricultural practices
- Determine the impact of local/state/national safety programs upon accident rates in agricultural/natural resource occupations
- Comparison of profitability of various agricultural/natural resource practices
- Investigate the impact of significant historical figures on a local community
- Determine the economic effects of local/state/national legislation impacting agricultural/natural resources
Plagiarism - don't do it, use quotations
Ethics Statement - do not commit scientific fraud or misconduct
- presentation of others work as your own
- fabrication of data
- falsification of data
Safety
- no live vertebrates at the fair
- no chemicals, hypodermic needles, syringes or crystals at the fair
- no human, warm blooded animal, or wild cultures (skin, throat, mouth, etc.)
- no exhibits using over 120 volts
- overall exhibits must be safe!
Logbook

- Date
- Description of Activities/General Observations
- Data Table/Chart with Observation for Each Treatment

Written Report

- Title Page
- Abstract
- Introduction
- Review of Literature
- Materials and Methods
- Results
- Discussion and Conclusion
- References
- Acknowledgements

Title Page- Short Descriptive Title (<15 words), name, grade, school and school address
Abstract- brief summary of purpose, methods, results and conclusion (no discussion, citations or references to tables/figures)
Introduction- “Why was the work done?” state problem, purpose of research, findings of earlier work, general approach and objectives
Review of Literature- review previous studies, similar research methods, history of research on topic- how will your research improve upon existing information
Materials and Methods- enables others to reproduce results by duplicating experiment-past tense, third person
Results- summarize results- just the facts, observations, patterns, trends and relationships
Discussion and Conclusion- recap results/discuss if they were different from expected, did they support your hypothesis- why did you see what you saw, draw conclusions, tie to literature
References- only cite reference that were used, use APA Format, give credit if not common knowledge
Acknowledgements- anyone who helped you