• Keep a journal, measure & record feed schedule, weight gain, animal health, or behavior noting any changes.
• Compare one animal to another or to animals from past years.
• Measure and record average daily wind speed and direction at your home.
• Measure and record daily max and min temperatures and precipitation.
• Measure and record your heart rate & breathing rate at rest and then after different forms of exercise.
• Keep a nature journal and sketch the land around your home through the seasons.

• Ask questions based on 4-H project goals and observations from journal.
• State problems that may have come up during your project.
  Examples:
  o Do animals have feed preferences? Can that be tested while maintaining proper feed ration?
  o Will using row covers affect the growth of lettuce?
  o Does the size of a propeller blade affect the amount of electricity generated?
  o What is the best temperature to culture yogurt?

A hypothesis is an explanation or best guess about how or why something happens based on your observations or research.

Examples:
- My lamb will prefer this type of feed because...
- The lettuce grown under row covers will .... because...
- The larger propeller blades will .... because...
- Yogurt will culture better at ... degrees because...

A prediction is a forecast of what you think will happen in your investigation or experiment based on what you know.

Examples:
- My lamb will grow about ... lbs. by September.
- The lettuce under row covers will grow...by August 1st.
- The 24" long blades will spin faster than the 12" long blades.
- Yogurt will culture better at ... degrees than at ... degrees.
Planning & Investigating

- Investigate a question you might have. Can it be answered using...
  - evidence found in the natural world?
  - research resources in print or online?
  - resources and material available to me?
- Set up an experiment
  Examples:
  - Measure daily growth & weight gain of your lamb or animal.
  - Grow and compare lettuce in the open & under row covers.
  - Design and test simple windmills with different blade sizes.
  - Culture yogurt at different temperatures.

Interpreting

- Categorize/Order/Classify
- Organize
- Infer
- Evaluate
- Research a Problem
- Interpret/Analyze/Reason
- Optimize

Communicating

- Create a display showing the growth of your animal to display at the Fair.
- Chart & graph milk production.
- Give a presentation at a club meeting.
- Demonstrate your research at County Activities Day.
- Join a 4-H FLL Lego Robotics Team.
- Participate in citizen science like UNH Lay Lakes Monitoring or CoCoRaHS precipitation monitoring.
- Create a poster, PowerPoint, or video about your wind power research & share with your club or school.
Notes & Directions:

1. Card should be cut so Front and Back of cards are on a single piece and folded in the middle.
2. Laminate cards using an approximate 2 ¾ x 4 1/2 laminating pouch
3. Punch hole in the upper left hand side of the card

<table>
<thead>
<tr>
<th>Front</th>
<th>Back</th>
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<tr>
<td>![Image]</td>
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**Communicating**

- Model/Graph/Use
- Numbers
- Summarize/Relate
- Demonstrate
- Communicate to Others
- Collaborate

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