



## *PART 1*

### *Asking the Question or Defining the Problem*

The investigations will be on topics of your choice, approved by your teacher. When you are choosing your investigation keep this in mind:

- ❑ You should be personally interested in the investigation.
- ❑ You should be able to do the investigation with limited outside assistance.
- ❑ You should be able to finish the investigation by the assigned date.
- ❑ The investigation must be QUALITATIVE or EXPERIMENTAL. It must have a testable hypothesis, which involves the control and manipulation of variables.
- ❑ The investigation must have measurable data. The measurements must be in a standard unit of metric measure, and not be based on opinion or value judgments.
  - Acceptable: meters, grams, seconds, degrees Celsius
  - Unacceptable: good, tall, yellowish – green
- ❑ The answer to the question must not be common knowledge. “Do plants need light to grow?” is not a good question because most people know the answer to this before the work is done.
- ❑ The question must be reasonable. “Does lemonade affect cow’s teeth?” is not reasonable because cows do not drink lemonade. There must be some purpose to the investigation.

When it is finished, the answer should be a useful thing to know.

- Your investigation may not involve humans or animals with backbones.
- The topic must be directly related to the Texas Essential Knowledge and Skills (TEKS) of Seventh Grade Science. A copy of the TEKS is available in the classroom, on our class website at [http://science-class.net/7th\\_grade\\_TEKS.htm](http://science-class.net/7th_grade_TEKS.htm) or on the TEA website at: <http://www.tea.state.tx.us/teks/112-021n.htm>

Suggested topics for your investigation include, but are not limited to:

- Simple machines (any kind)
- Force and motion: speed, acceleration, momentum in moving objects
- Forces in living things (use models)
- Chemical changes: rusting, tarnishing, etc
- Potential and kinetic energy
- Photosynthesis
- Stimulus and response in plants
- Weathering and erosion

More specific ideas may be found on the class website at:  
[http://www.science-class.net.possible\\_investigation\\_topics.htm](http://www.science-class.net.possible_investigation_topics.htm)