

Independent Investigation

Brainstorming

Name _____

Date _____ Class _____

For part one you are going to decide on something to investigate. This deserves a lot of thought because you are going to be spending a lot of time investigating your question. Write down your questions to investigate under the column "questions to investigate." Then follow the "narrowing your ideas" worksheet to help eliminate questions that are not inquiry based.

	<i>Questions to Investigate</i>	Interesting	Purpose	Observation	Change	Measure
1	Can you purify water using everyday materials?					
2						
3						
4						
5						

6					
7					
8					
9					
10					
11					
12					
13					

Independent Investigation

Narrowing Ideas

Name _____
Date _____ Class _____

IMPORTANT NOTE:

> **A good scientific question is based on careful observation**

There are many ways to investigate things but for this we can investigate using an experiment. This is a little harder Wikipedia but it will be more interesting too. The following have a question that you can investigate with an experiment. see what you can do!



and can be investigated.

assignment we want to focus on things that than just reading a book or visiting steps will help you to make sure that you This should not be difficult, so have fun and

- 1. In order for you to do a good job on this investigation the question you are investigating should be something that you are really interested in. **The first column is labeled “interesting”.** For each question, put a check in the box under the word “interesting” if the question is really interesting to you.*
- 2. Your experiment should allow you to apply the collected information to the real world. For example, ask yourself can my investigation be used to solve a problem and benefit society? For example, if you wanted to test concrete elasticity by testing pieces of concrete mix in a specific water/cement ratio. The purpose is after seeing potholes in the winter, and how material becomes brittle and begins to crack, what affect does elasticity have on this? This is beneficial to contractors because there are weight limitations to roads, therefore they will be able to prevent cement cracking over longer periods of time. **The second column is labeled “purpose”.** Read each of your ideas and put a check in the box next to the question if the question is something that you can apply to the real world.*
- 3. A good scientific question is based on observation. **The third column is labeled “observation”.** Read your questions and put a check in the box next to the question if the question can be something you can observe daily using a microscope or the naked eye.*
- 4. In order for you to do an experiment you must be able to change some part of the thing that you are investigating. For example you may be interested in what would happen if a car ran into a truck but it will be hard for you to do an experiment with cars or trucks since you don't have a driver's license. On the other hand you may wonder if some kinds of balls bounce higher than others and you can drop different types of balls to see how high they bounce. **The fourth column is labeled “change”.** Put a check in the box next to the question if it involves something that you could change. (Variable)*
- 5. In order for you to do an experiment about this idea you must be able to measure something. Things that you can measure include temperature, size, a change of distance or height, a change of color, speed, hardness or softness, the volume or amount of something and probably a few others I haven't thought of. **The fifth column is labeled “measure”** and put a check in the box next to the idea if it has something that you could measure.*