



# Independent Thinking

Quick Reference & Action worksheet

a print-ready downloadable copy of this worksheet is available at [www.theglorygirl.com/herohacks](http://www.theglorygirl.com/herohacks)

## 3: Processing Information (Thinking)

Going beyond the basics of inductive & deductive logic. Using the Scientific Method in Life

Explore the scientific process with an experiment. Remember the acronym, OHEMS. Observing a phenomenon, Hypothesizing from that, Experimenting to confirm the original observation, Matching the results of the experiment to what expected, then Stopping (or Starting again until the results match what you expect to happen).

### A Simple (But Fun & Interesting) Experiment to Learn the Scientific Process

There are so many experiments and types of experiments- from science to social- but the following is a simple but interesting one that you can do at home with some basic items. The purpose is to work through the basics of the scientific process.

What you'll need: Dawn dishwashing liquid, Karo syrup, red food coloring, honey, 3"-5" tall & clear water glass, 2 small clear plastic cups, a spoon, and probably some paper towels on hand would be useful, too.

Your first Hypothesis can be about what color you think you'll end up with after putting the 3 different ingredients in the same glass (blue, yellow, red).

#### Preparation

1. Arrange your 2 plastic cups and one tall glass in a row.
2. Pour the Dawn into one of the plastic cups to fill it ¾.
3. Do the same now in the next cup with the Karo syrup.
4. Mix red food coloring with a spoon into the Karo syrup until the syrup turns deep red throughout.

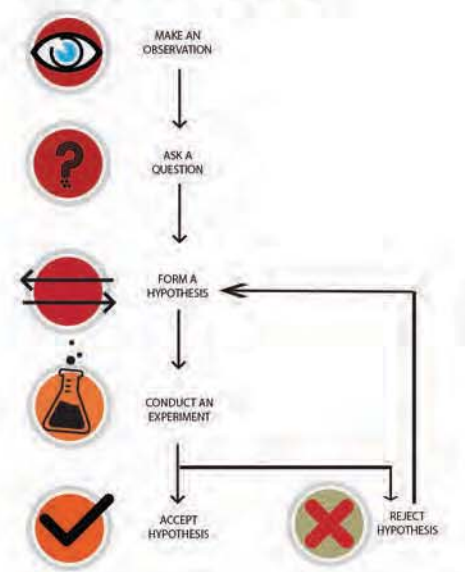
#### Experiment (Execution)

1. Pour honey into the tall glass, filling it up about 1" high. Yes, the glass has to be at least 3" tall.
2. Now SLOWLY pour the dish soap until you have reached about 2" up the glass.
3. Now SLOWLY pour the dish soap until you have reached about 2" up the glass.

Remembering the acronym "OHEMS", what did you Observe? What was your Hypothesis (what color you'd have). Did your Experiment's outcome Match what you thought as far as color? If not, adjust your Hypothesis, wash the glasses, and try it again to match your new hypothesis ""S"". (Here's a hint. Your hypothesis will likely not contain just a color!). Repeat the experiment. Match the results to your new hypothesis.

Voila. You just created a new hypothesis, and completed all the steps of the scientific process perfectly. By the way. You also proved something else major in the process. People never fail. Only processes do. And using the scientific process, you adjust in each iteration until you "succeed". It's a universal law. And it applies to your life just as much to Karo syrup!

### the scientific process



### Using Multiple Thinking Styles on the Same Problem: the 6 Thinking Hats

Discuss a new problem or desire with friends/colleagues, or even by yourself, taking 5 minutes to think and discuss it from each of the following frames. You don't need to wear a colored hat, though to keep track, you could simply use notecards with a colored headline of the frame, and brief description reminder. Stopwatch it, so you don't get stuck in a longer time in one of your preferred ways of thinking. Part of the advantage is to explore other "ways" for a more well-rounded and solution-rich approach. That's the whole point of "parallel thinking". Start with the blue "hat", which is big picture orientation, but then you can use any hat next, just as long as you employ all of them by the time you are finished.

- Managing Blue** - what is the subject? What are we thinking about? What is the goal?
- Information White** - considering purely what information is available, what are the facts and numbers?
- Emotions Red** - intuitive or instinctive gut reactions or statements of emotional feeling
- Discernment Black** - apply logic to identify reasons to be cautious and conservative
- Optimistic response Yellow** - logic applied to identifying benefits, seeking harmony
- Creativity Green** - statements of provocation and investigation, seeing where a thought goes



### ACTION!

1. Complete this worksheet & review it a week later as a refresher.
2. Try keeping up with an observation notebook, and performing a 20 minute observation process once a week for a month. This will help embed the process into your natural thinking.
3. Try thinking up new social experiments, using the OHEMS steps. That's fun.
4. Remember to keep a "positive" skepticism about everything. It will come in handy.
5. Remember, when it comes to yourself, think of your own biases with some skepticism and how to eliminate them. Ironically, instead of making you less sure of yourself, you'll find your clarity and sure-footedness increase.
6. Read all of the Glory Girl books as each one has a slightly different character point of view, and think about the different personalities of each character, and how that might affect their thinking and behavior given each situation. (joke!)
7. Live YOUR life to the max.