

Name: _____

period: _____

STEPS OF THE SCIENTIFIC METHOD

For each problem below, place the letters in the correctly numbered blanks to put the steps of each experiment in their proper order according to the scientific method.

#1 1 2 3 4 5 6 7

- A. My average times were 8:32 for no breakfast days, 8:15 for low calorie breakfast days, and 7:59 for high calorie breakfast days.
- B. I conclude that if I eat a low-calorie breakfast, I will run a faster mile than if I ate a high calorie breakfast, or no breakfast at all.
- C. My hypothesis was incorrect, as I ran faster on days that I ate a high-calorie breakfast.
- D. I wonder if my breakfast choices affect how quickly I can run 1 mile.
- E. I wrote a lab report about my experiment and showed it to all of my friends.
- F. For 5 weeks, every Monday and Tuesday I ate a high calorie breakfast. Every Wednesday and Thursday I ate a low calorie breakfast, and every Friday and Saturday I ate no breakfast. On each day, I ran 1 mile on the school track at 3:00 p.m.
- G. My research indicates that most runners achieve the best results by eating a low-calorie breakfast.

#2 1 2 3 4 5 6 7

- A. I will build a maze. I will have 3 salamanders of each color attempt to complete the maze, and time and record each attempt.
- B. I wonder if red salamanders can solve a maze faster than green salamanders
- C. I wrote a letter to the editor of the science section of the Boston Globe, telling her of my experiment and results.
- D. I think that red salamanders will solve the maze more quickly than green salamanders.
- E. I cannot draw a conclusion, as the average times for each color are close, and the individual times were too inconsistent.
- F. The green salamanders' times were 17, 109, and 35 seconds. The red salamanders' times were 31, 95, and 35 seconds.
- G. There was no information in my library about salamander intelligence.

#3 1 2 3 4 5 6 7

- A. I told my teacher about my experiment, who was very impressed, and gave me an A for the term.
- B. I found an online “memory” card matching game. I allowed myself 10 guesses per game, and recorded the number of correct pairs I found. I played the game 3 times with music, and 3 times without.
- C. 3 articles I found online said that no link exists between listening to music while studying and retaining information
- D. I once heard that listening to classical music while studying will improve your test scores
- E. My average scores were too similar to draw a conclusion.
- F. I think my scores will improve if I listen to music while studying.
- G. My scores without music were 8, 10, and 7 pairs. My scores with music were 12, 5, and 9 pairs.

#4 1 2 3 4 5 6 7

- A. I think that mice are entering my house through the crack in the foundation.
- B. I place “have a heart” no-kill traps next to the hole in the basement floor, the foundation crack, and the gap in the siding.
- C. I catch 3 mice next to the hole in the basement floor, 10 near the foundation crack, and none near the gap in the siding.
- D. I call my local exterminator with the good news.
- E. My local exterminator says mice also enter the house through gaps in the siding, as well as through borrows underground.
- F. I conclude that the mice are entering near the foundation crack.
- G. There are mice in my house.