Designing a Fair Test

You will need to design a fair test to answer today's investigative question. In order to assist you, please answer the following questions:

1. What are you trying to test?

2. What types of water (hot, cold, salt?) will you need to use for your test?

3. What will you measure for each test?
Most people, especially if they have a sister or brother, have a pretty good idea of the concept of “fair”. For example, it’s not fair if I give Samantha a chocolate chip cookie but don’t give one to Charlie or one to Crystal too! So what is “fair” in scientific tests? Think about the different aspects of a science experiment and circle the elements below which would likely be part of a “fair test”.

- Use equal amounts of water for all tests.
- Run several trials and average the results from each trial.
- Let each test run for different lengths of time.
- Set a timer and run each test for the same time.
- Run only one trial of an experimental test.
- Vary the amounts of water in all test groups.
- Measure the same thing(s) (volume, mass, temperature) in all test groups.

For different tests, measure volume in one test, mass in another, and temperature only when convenient.