Study Guide for Meaningful Science

The Definition of Science

A. Science is a _____ approach to learning about how the _____ works.
Science comes from the Latin word, _____ which means _____.
Ideally scientists study nature using the Scientific Method:

1. Observe a _____
2. Form a _____ attempting to answer the problem.
3. _____ your hypothesis with a controlled experiment.
4. Make _____ and collect _____
5. _____ observations and perform _____
6. Form _____ about your hypothesis.

B. *Ideally* an experiment is concerned with what is:

- ✓ _____ (Can be observed with the 5 senses.)
- ✓ _____ (Can be theoretically proven false using the scientific method.)
- ✓ _____ (Conclusions are subject to change with new observations.)
- ✓ _____ (Can be described using mathematical natural laws.)

The Limitations of Science

Science is a powerful tool, but there are limits to what it can be used for. Science **cannot**:

- ✓ _____ Science.
- ✓ Provide the _____ to do science.
- ✓ Tell us how we _____ to use the knowledge and technology we gain from science.
- ✓ **Explain many of the most important things that exist in our lives, such as love, logic, math, good and evil, and many other non-material things!**

The Assumptions of Science

A. To make **empirical** observations you must assume:

- ✓ Nature is _____
- ✓ Your senses are _____
- ✓ You have _____ to choose what to observe and what to ignore.

B. To be **falsifiable and tentative** you must assume:

- ✓ You can't simply _____the order in nature, but rather you must go out and see for yourself. (In other words, we need to experiment!)
- ✓ We are _____ in our abilities to observe and understand how nature works.

C. To be **mathematical** you must assume:

- ✓ Nature is _____, so that you can describe it with simple, elegant formulas.
- ✓ We can _____ and _____ the order in nature.
- ✓ Order we observe here and now applies to other times and places. (a.k.a. _____)

The Christian Heritage of Modern Science

It was no accident that modern science was born out of a culture saturated with the Christian world-view. Christianity perfectly provides the motivations, assumptions, and moral applications for science.

Motivations

A. _____: We believe that you are not merely a little blip in time that will soon be forgotten. What you learn now can and will effect eternity!

B. _____ **that benefits mankind and the creation**: God commanded Adam to "be fruitful and multiply," to "subdue the earth" and to have dominion over land, sea and sky. God also commanded Adam to name the animals (zoology) and to care for the garden (botany).

C. The _____ **of God**: The Bible is filled with phrases like, "The heavens declare the glory of God…" (Psalm 19:1) Also, many of the greatest minds in modern science have been men and women seeking to "think God's thoughts after Him" and to read "the book of God's _____."

Assumptions

A. To make **empirical** observations you must assume:

- ✓ Nature is real.
- ✓ Your senses are reliable.
- ✓ You can choose what to observe and what to ignore.

The Bible says we are created in the _____ with the ability to think, to reason, to question, and to know right from wrong. (Genesis 1:27)

B. To be **falsifiable and tentative** you must assume:

- ✓ You can't simply predict the order in nature, but rather you must go out and see for yourself. (In other words, we need to experiment!)
- ✓ We are limited in our abilities to observe and understand how nature works.

The Bible says God created the Universe _____, out of nothing. (Hebrews 11:3 and Revelation 4:11) He could have created nature _____ He pleased. He didn't have to create the Universe at all, let alone in a particular way. So we must go out and see how He actually did it. Additionally, the Bible acknowledges that humans are limited in their ability to observe and understand how nature works. "For my thoughts are not your thoughts, neither are your ways my ways, says the Lord. For as the heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts." (Isaiah 55:8-9)

C. To be **mathematical** you must assume:

- ✓ Nature is orderly, so orderly that you can describe it with simple, elegant formulas.
- ✓ We can discover and understand the order in nature.
- ✓ The order we observe here and now applies to other times and places. (Uniformatarianism)

The Bible says there is one God who made _____ and who _____ it all at every moment. In the beginning was _____ (*logos*). (John 1:1) The Creator is a supernatural Mind, all-_____ and all-powerful. (Colossians 1:17-18.)