

Introduction to Research

What is Research

- Research is a systematic process of collecting and analysing information to increase the understanding about the phenomena under study
- **Hypothesis** A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.

Scientific Research and its characteristics

- Scientific research is that research which adheres to a set of strict protocols and long established structures
- Characteristics:
 - Verifiable evidence
 - Accuracy
 - Precision
 - Systematization
 - Objectivity
 - Recording

Ask a Question - How, What, When, Who, Which, Why, or Where?

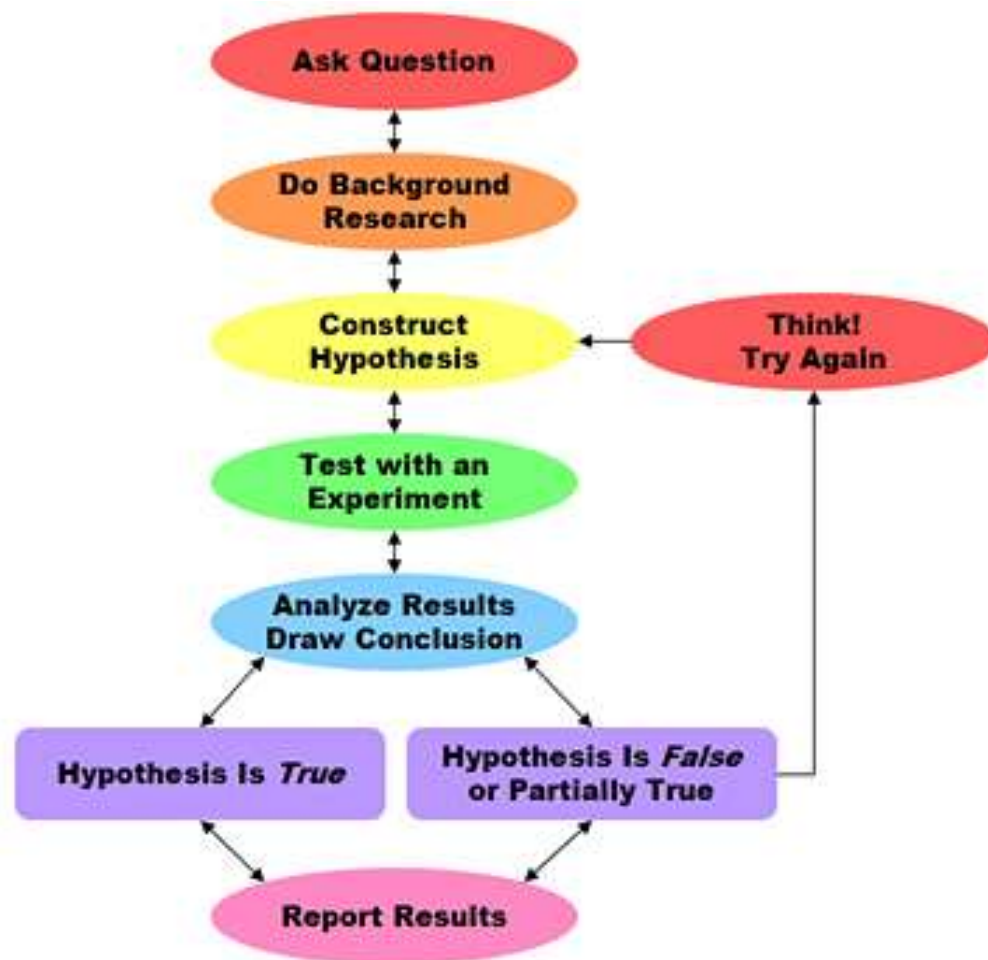
Do Background Research

Construct a Hypothesis - A hypothesis is an educated guess about how things work
"If _____*[I do this]* _____, then _____*[this]*_____ will happen."

Test Your Hypothesis by Doing an Experiment

Analyze Your Data and Draw a Conclusion

Communicate Your Results



Types of research

Basic research – New theories, New ideas or new principles

Need for basic research

- Depth knowledge
- Technique/methods
- Specific hypotheses
- Exhaustive lit survey
- Avoid bias and minimum error

Applied research

Problem solving research

- No need of vast experience
- Problem will be hypotheses
- Intensive lit survey not required
- Simple analysis is enough
- Findings immediately applied

Historical research

Personal letters

Witness

Documents

Sources related to cultural history

Limitation

Non availability of data

No agency

Authenticity

Data biased

Historian may not record all

Must collect data from

Govt. agencies

Comprehensive data

Data validity assessed

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Futuristic Research

Finding solution for future condition of the present problems

Exploratory research

Explore virgin or less researched area

Explanatory research

Explanations to problems

Interdisciplinary research

Indiscriminate interdisciplinary

Pseudo

Auxiliary

Composite

Supplementary

Unifying

- **Bias** means that a person prefers an **idea** and possibly does not give equal chance to a different idea

also means mistakes in **Measurments**

- **Prejudice** meaning -Preconceived opinion not based on reason or experience.