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## Research Basics

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The research process deals with the ways and strategies used by researchers to understand the world around us. This is a guide to basic elements of scientific research.

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*Quiz Time!*

Quiz: Psychology 101 Part 2

Quiz: Psychology 101 Part 2

Quiz: Flags in Europe

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## Research Basics



[1]

### Research Methods [1]

Formulating questions, collecting data, testing hypotheses



[2]

### Experimental Research [2]

Setting up experiments



[3]

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### Research Designs [3]

Different types of designs used in research



[4]

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### Statistics in Research [4]

A guide to statistics in research.

## What is Research?

What is Research? [5]

Basics of the Scientific Method [6]

What is Empirical Research? [7]

What is the Scientific Method? [8]

Definition of Research [9]

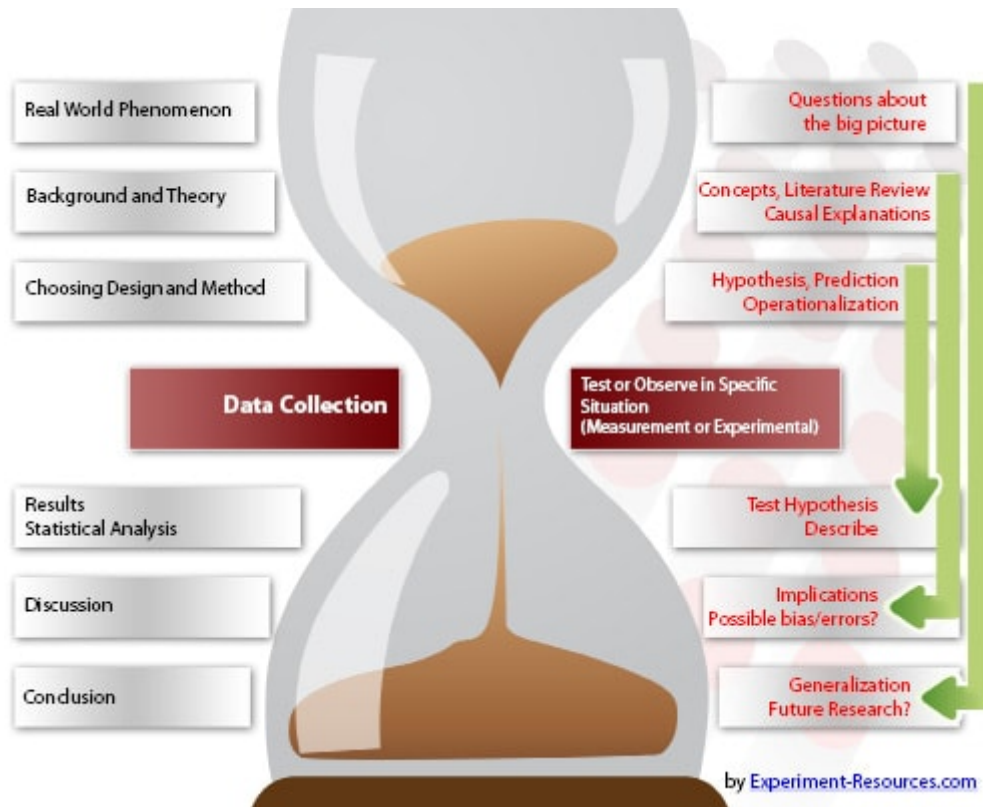
Definition of the Scientific Method [10]

Definition of Science [11]

## Steps

Steps of the Scientific Method [12] - The scientific method has a similar structure to an hourglass - starting from general questions, narrowing down to focus on one specific aspect [13], then designing research where we can observe and analyze this aspect.

At last, the hourglass widens and the researcher concludes [14] and generalizes [15] the findings to the real world.



## Aims of Research

The general aims of research [16] are:

- Observe [17] and Describe
- Predict [18]
- Determination of the Causes [19]
- Explain

Purpose of Research [20] - Why do we conduct research? Why is it necessary?

## Elements of Research

Common scientific research elements [21] are:

Characterization - How to understand a phenomenon

- Decide what to observe [22] about a phenomenon
- How to define the research problem [13]
- How to measure [23] the phenomenon

Hypothesis [24] and Theory [25]

- The research questions [13] before performing research
- Almost always based on previous research

## Prediction [18]

- What answers do we expect?
- Reasoning [26] and logic on why we expect these results

## Observation [17] or Experimentation [2]

- Testing characterizations, hypothesis [27], theory and predictions
- Understanding a phenomenon better
- Drawing Conclusions [14]

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