

## 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.



The banner features a bright orange background. At the top center is a white icon of a flask with a flame, followed by the word 'EXPLORABLE' in a bold, white, sans-serif font. Below this, the phrase 'Quiz Time!' is written in a white, cursive script. Underneath the text are three white-bordered square images. The first image shows a pair of red roller skates on a wooden deck, with the text 'Quiz: Psychology 101 Part 2' below it. The second image shows a fan of colorful pens, also with the text 'Quiz: Psychology 101 Part 2' below it. The third image shows a Ferris wheel at sunset, with the text 'Quiz: Flags in Europe' below it. In the bottom right corner of the banner, the text 'See all quizzes =>' is written in white.

## Research Basics

- [Research Methods](#) unknown [1] [Research Methods](#) [1]  
Formulating questions, collecting data, testing hypotheses
- [Experimental Research](#) [2] [Experimental Research](#) [2]  
Setting up experiments
- [Research Designs](#) unknown [3] [Research Designs](#) [3]  
Different types of designs used in research

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A guide to statistics in research.

## What is Research?

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[Basics of the Scientific Method](#) [6]

[What is Empirical Research?](#) [7]

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[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.

### Steps of the Scientific Method

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## 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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