

Research Activities

This is something we already covered in class
but you might like to review the material for your future studies.

Research Activities

We all remember learning about the **scientific method** in school. But how much difference does it actually make? In the real world, scientists must follow the scientific method as closely as possible. Otherwise, the research may be totally useless.

Research Activities

Controlling the scientific method is often easier in the lab. But lab experimentation is not always possible. An **observational study** is sometimes the only way to examine real-world practices. These are monitored in a natural experiment or a **field experiment**. With these experiments, scientists must take particular measures to maintain scientific integrity. For example, a **double blind** trial is a safeguard against potential **selection bias**. Scientists also watch for the placebo effect. This helps them understand how the subjects themselves might **skew** the results.

Observation – posmatranje

Field experiment – eksperiment na terenu

To maintain – održavati

Double blind – dvostruko slepa studija

tj. ni lekar ni pacijent ne znaju ko je primio

lek a ko placebo

Selection bias – pristranost pri odabiru

To skew – iskriviti, uciniti nepouzdanim

In vivo – test done on a living organism

In vitro – test done in the lab, in a test tube

Subject – ispitanik, predmet istrazivanja

Research Activities

In any situation, experimentation must be varied and thoughtful. Many studies are submitted for **peer review** to gather opinions or test validity. The strongest studies exhibit external validity and **reproducibility**. These qualities are essential to the successful scientific method.

Peer review – ocenjivanje, recenzije kolega

Varied – raznovrstan

Validity – vazenje, pouzdanost

Reproducibility – mogućnost reprodukcije

Reading

2 Read the article. Then, choose the correct answers.

- 1** What is the main idea of the article?
- A** a problem with a recent experiment
 - B** ways that scientists maintain reliability
 - C** proposed adjustments to the scientific method
 - D** why conduct experiments in a lab environment

Reading

2 Which of the following does **NOT** prevent skewed results?

A avoiding selection bias

B setting up a double blind trial

C conducting a field experiment

D recognizing the placebo effect

Reading

- 3** What happens during the peer review process?
- A** Scientists submit opinions about the validity of experiments.
 - B** Scientists participate in each other's experiments.
 - C** Scientists permit use of their labs and subjects for studies.
 - D** Scientists attach their own results to each other's studies.

Vocabulary

3 Match the words or phrases (1-6) with the definitions (A-F).

1 research

2 double blind

3 safeguard

4 skew

5 observational study

6 experimentation

Vocabulary

A a situation where placement of subjects is not controlled by a researcher

B ensuring group assignments are unknown to both subjects and researchers

C the process of performing controlled studies to gain information

D the process of investigating materials and sources to reach conclusions

E something that is used to protect against loss or damage

F to change something and make it incorrect