Basic Scientific Literacy Assessment

(Version 4.1, 10 Questions, BSL Module Assessment)

The following assessment measures knowledge of basic scientific literacy. It includes questions about the definition of science, types of scientific research, the scientific method, and protection of people in research activities. This assessment contains key questions and expanded explanations of the answers.

This assessment was developed by Be the Generation Bridge, a collaborative project between the Legacy Project and FHI360, in conjunction with HPTN, HVTN, and MTN. For more information, contact Legacy Project at 206-667-1194 or visit www.hanc.info.

Basic Scientific Literacy Assessment

(Version 4.1, 10 Questions, BSL Module Assessment)

ID

Please indicate whether you believe the following statements to be true or false about basic scientific literacy. If you are unsure, feel free to select "don't know."

		True	False	Don't know
1.	Science is a detailed study of a subject to discover new information and reach a new understanding.	T	F	DK
2.	Research asks and answers the questions that solve problems and produce knowledge that can be used in new ways.	T	F	DK
3.	All scientific research shares just one thing: it must be logical and systematic.	T	F	DK
4.	There are three steps in the scientific method cycle: question, collect data, and experiment.	T	F	DK
5.	After a conclusion has been reached, researchers likely publish their results to share their findings so others can repeat and validate the results.	T	F	DK
6.	Most scientific research is funded by government grants, private companies, and non-profit organizations.	T	F	DK
7.	Researchers can assume that prior research is sound and can use it in their own research.	T	F	DK
8.	Humans have inhabited the earth for approximately 100,000 years.	T	F	DK
9.	Informed consent is the process of providing potential participants with important facts about the research before they decide to participate.	T	F	DK
10.	Ethical principles must guide all research activities.	T	F	DK

Please complete this form so that data may be analyzed accurately.

ID

Event _____ Date _____

With which racial or ethnic groups do you identify? (Check all that apply)

- ❑ African American/Black
- ❑ Alaska Native (Tribal Affiliation(s):_____)
- ❑ American Indian (Tribal Affiliation(s): _____)
- ❑ Asian American
- ❑ Latino/Latina/Hispanic
- ❑ Native Hawaiian or Other Pacific Islander
- ❑ White Caucasian
- ❑ Other (Specify: _____)
- ❑ Decline to State

How old are you?

- ❑ Under 18 years old
- ❑ 18-20 years old
- ❑ 21-24 years old
- ❑ 25-29 years old
- ❑ 30-39 years old
- ❑ 40-49 years old
- ❑ 50 years old or older

What is the highest level of education you have completed? (Check one)

- ❑ No High School Degree or GED
- ❑ High School Degree or GED
- ❑ Some College, Did Not Receive Degree or Certificate
- ❑ AA degree/Vocational Certificate
- ❑ 4-Year College Degree (BA/BS)
- ❑ Master's Degree
- ❑ Doctorate/Medical/Law Degree

What is your gender? (Check all that apply)

- ❑ Man/Male
- ❑ Woman/Female
- ❑ Transgender
- ❑ Genderqueer
- ❑ Gender Non-Conforming

What is your sexual identity?

- ❑ Straight or Heterosexual
- ❑ Gay, Lesbian, or Homosexual
- ❑ Bisexual
- ❑ I do not identify with any sexual identity
- ❑ Other (Please specify: _____)

Basic Scientific Literacy Assessment

(Version 4.1, 10 Questions, BSL Module Assessment)

ANSWER KEY

1. **Science is a detailed study of a subject to discover new information and reach a new understanding.** **T**

   Science is an organized inquiry to help solve a problem; a careful and systematic investigation to establish facts or principles; an examination of patterns or rules to explain how something works; and a sharing of observations, discoveries, and what is learned (the findings).

2. **Research asks and answers the questions that solve problems and produce knowledge that can be used in new ways.** **T**

   Research is an important part of science because it helps us understand how things work, how things are made, and why things happen the way they do. Research leads to the science that helps us understand our world and our place in it.

3. **All scientific research shares just one thing: it must be logical and systematic.** **F**

   All scientific research shares five things. It is logical and systematic (it should be reasonable and understood by others); it is creative (it leads to new solutions, theories, or technologies); it is generalizable (it investigates a small sample which can be generalized to a larger population); it is replicable (others can test the findings by repeating it); and it is presentable (it includes presentation to others (oral or writing)).

4. **There are three steps in the scientific method cycle: question, collect data, and experiment.** **F**

   There are four steps in the scientific method cycle. The final step is to draw a conclusion, which includes what you now know and what research has shown.

5. **After a conclusion has been reached, researchers likely publish their results to share their findings so others can repeat and validate the results.** **T**

   Before results are published, they will be peer reviewed by other experts in the field. These experts provide validity to the research and conclusions, which supports the value of the work.

6. **Most scientific research is funded by government grants, private companies, and non-profit organizations.** **T**

In the U.S., the National Institutes of Health (NIH) funds and supports research about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability. The NIH uses the peer review process to identify the most promising biomedical research. The research funding requests are evaluated for their scientific and technical merit. Other non-profit organizations (such as the Bill and Melinda Gates Foundation) and private companies (such as pharmaceutical companies) also fund scientific research.

7. **Researchers can assume that prior research is sound and can use it in their own research.** **F**

Just because research has been published or is available on the internet does not mean it is true.

8. **Humans have inhabited the earth for approximately 100,000 years.** **F**

Humans have inhabited the earth for approximately 200,000 years. During that time, we have adapted and changed in order to survive and grow.

9. **Informed consent is the process of providing potential participants with important facts about the research before they decide to participate.** **T**

Informed consent includes: risks of taking part (e.g., privacy, side effects); sharing health and family information; access to health information; rights to control research specimens after donation; de-identification of research participants' results; costs to participate, if not covered; consequences of withdrawing from the research; receiving key findings; whether release of findings can affect participant insurability; possibility of families learning information about the participant.

10. **Ethical principles must guide all research activities.** **T**

Ethical principles must guide all research activities and include formation of research questions, design of the research (sometimes called a “study” and “clinical trial”), conduct of research, analysis of data, and interpretation of findings.