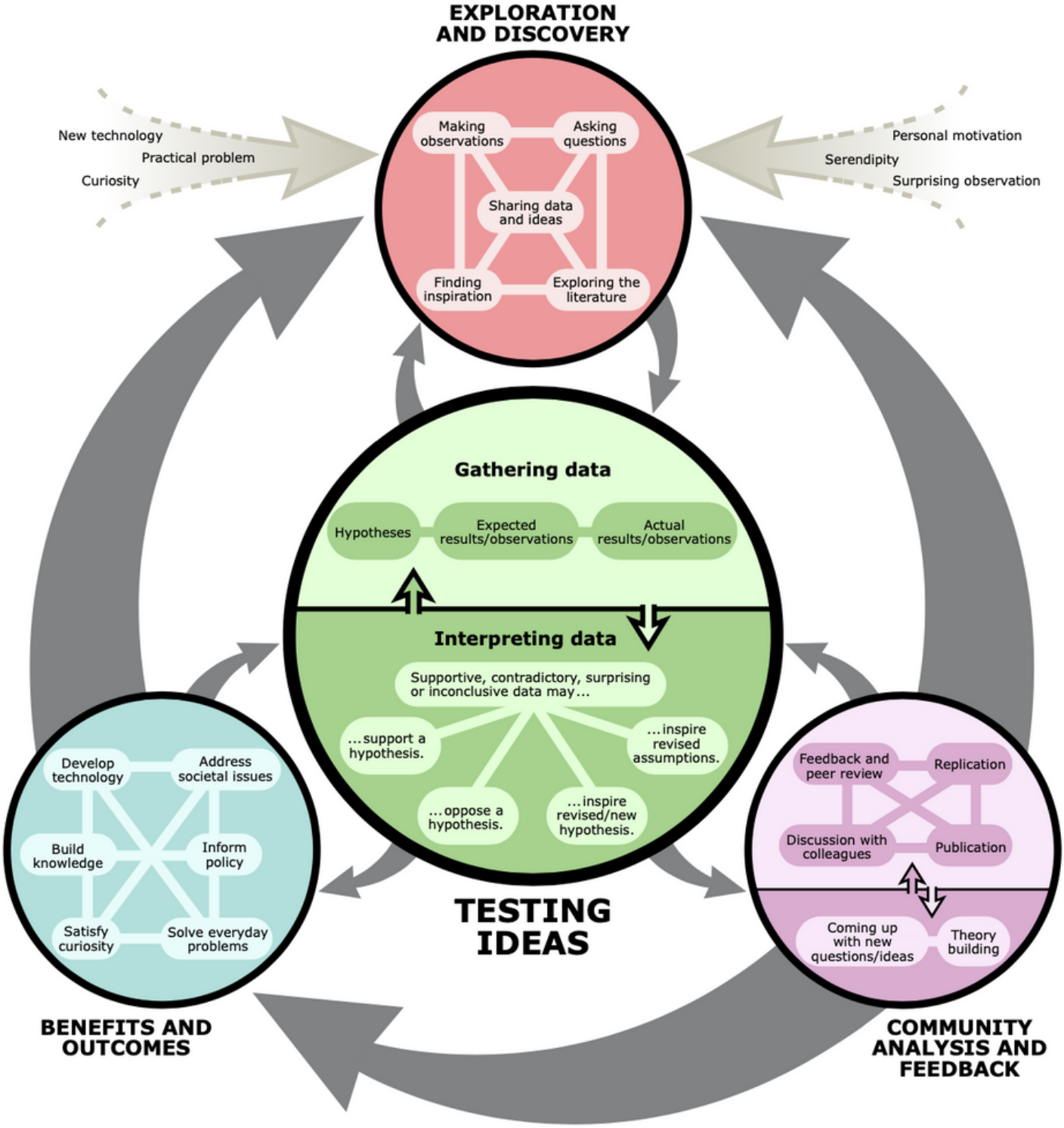
NAME: _____

How Science Works



ARTICLE: WHY DOES CITIZEN SCIENCE MATTER?

by Gary G. Abud, Jr., Great Lakes Now Education Contributor

Citizen science is when everyday people help scientists with their research. It is still a type of scientific research, but rather than being done in a lab only by professionals it involves regular people, or citizen scientists, in collecting and analyzing data. In contrast, professional science typically refers to scientific research that is conducted by professional scientists who have received specialized training in their field.

While citizen science involves non-professional scientists, it is still considered a valid and important form of scientific research. Citizen scientists are sometimes even trained by scientists or provided with specific protocols to follow, and their data is often carefully reviewed and analyzed by professional scientists.

Citizen science is a great way for everyone to help scientists learn more about the world we live in, and for the citizens to explore and discover new things. It is important and helpful to the scientific community because it allows scientists to collect much more data than they could on their own. By involving citizens in their research, scientists can get access to data from all over the world, and in places that they might not be able to visit themselves.

This kind of data can be very valuable, especially when studying things like the environment, animal behavior, or changes in the climate. For example, if scientists want to study the migration patterns of birds, they might not be able to track all the birds on their own. But with the help of citizen scientists who observe and report bird sightings, they can get a much better understanding of how birds move across different regions. Because scientists can't be everywhere at once, that's where citizen scientists come in—they can help by observing the things around them and recording what they see.

For example, if you like going for walks in the park, you might notice that there are lots of different kinds of birds. You could take pictures or make a list of all the different birds you see, and share that information with scientists. They can use your observations to learn more about what kinds of birds live in different places and how they behave.

One key difference between citizen science and traditional science is the level of training and expertise required to conduct the research. Professional scientists are typically highly trained in their field, with advanced degrees and specialized knowledge, while citizen scientists may not have the same level of formal training. However, citizen scientists can still make important contributions to scientific research without the same training.

Another difference is the scale of the research. Professional scientists often conduct large-scale studies with significant resources, while citizen science projects may be smaller and more localized. However, citizen science can still be a powerful tool for collecting data over large geographic areas or long periods of time, especially when multiple citizen scientists are involved.

Citizen science also helps to engage the public with science and research, which can encourage more people to get involved and learn about science. By involving more people in scientific research, we can create a more informed and educated society, which can help us make better decisions about how we care for our planet and the animals that live on it.

Overall, despite being distinct from traditional science, citizen science is still considered valid, helpful, and important to the scientific community because it allows scientists to collect more data, do unique research, engage the public, and make better more-informed decisions about our world.

NAME: _____

A Word, Phrase, Sentence Protocol

What is a **word** that you thought was most important from this lesson?

What is a **phrase** that you would like to remember from this lesson?

What is a **sentence** that sums up what you learned in this lesson?

3, 2, 1 Review Protocol

What are **3 things that you liked or learned** from this lesson's activities?

-
-
-

What are **2 ideas that make more sense** now to you?

-
-

What is **1 question that you were left with** after this lesson?

-

NAME: _____

Free Recall Protocol

With 1-2 partners, generate a list of everything you can remember learning about in this lesson related to the central topic of the lesson. Draw lines between any terms that relate to one another.

NAME: _____

4 Notes Summary Protocol

OOOH!

Something that was interesting to you

AAAH!

Something that became clearer; an "ah-ha" moment

HMMM...

Something that left you wanting to learn more

HUH?

Something you questioned or wondered

Sum It Up Statement:

Summarize your group discussion about your 4 Notes Summaries below:

NAME: _____

Think Pair Square Protocol

THINK

Write down your own individual ideas

PAIR

Summarize what you and your partner discussed

SQUARE

Summarize what your group discussed

NAME: _____

Rose, Thorn, Bud Protocol

ROSE

Something that "blossomed" for you in your learning

THORN

Something that challenged your thinking or was difficult to understand

BUD

Something that's new and growing in your mind — a "budding" idea