4-H Citizen Scientists
Project Butterfly WINGS

From the website https://www.flmnh.ufl.edu/wings/index.asp

What is Project Butterfly WINGS "citizen science" ?

WINGS, Winning Investigative Network for Great Science, is a partnership between 4-H youth and professional scientists. Participating youth are "citizen scientists" who collect data on butterflies to help professional scientists determine:

- The presence or absence of specific butterfly species
- The abundance of butterfly species by state and county throughout the country

The information helps butterfly scientists better understand and conserve butterfly populations.

How do I participate?

Youth who participate in WINGS need not be part of a 4-H club or group. The 4-H leader or adult can register participating youth to use the Project Butterfly WINGS website, where the youth will enter their butterfly monitoring data. Instructions for monitoring can be found in the 4-H WINGS project book.

What are the benefits of WINGS citizen science?

The citizen science data collection process benefits the field of butterfly science:

- WINGS gives participants have an opportunity to further the scope of butterfly research throughout the country.
- WINGS is a long-term monitoring project. The data will grow into a comprehensive database for comparisons and trend assessment.

Your county 4-H agent can order Project Butterflies WINGS Youth and/or Facilitator Guide for you.

STEM Connections

Colorado State University Extension

Connecting Science, Technology, Engineering, and Math concepts to our everyday lives.

Project Butterfly WINGS is a GREAT project! It incorporates the entire scientific process, is fun, engaging, and what you do WILL make a difference! Not only that, you will have an artistic blast while learning about the butterflies in your county!

In this project, you actually collect data for a scientific experiment that is tracking the common butterflies all across the United States. These data are sent to scientists at the University of Florida.

The project has lots of different, fun activities for you to do as you learn to identify the butterflies in your county. For example, you can make a 3 dimensional butterfly out of paper of fabric!

You can do this project as an individual, or as a club. It would count towards your service, since you are collecting data for scientists!

EXPLORE IT - DESIGN IT - DO IT

In our activity this month, we will be setting up your transect for the project. Scientists don't even try to collect data from each individual in a **population**. That would be impossible in almost every study ever conducted. Instead, they collect data from a small **subset** of the population, and then use those data as representative of the entire population. The transect is the method you will be using to collect the data on your subset. It is an area you pick, and then identify any butterfly that lands in your transect. If a butterfly lands anywhere inside the transect, count it as "In." If a butterfly lands on the rope, count it as "In." If the butterfly lands next to, but outside the rope, don't count it.

First, and most important, get permission to set up the transect. If you are on your own property, ask your parent. If you would like to set your transect on county, state, or US property, find the right people to get permission. (Your county agent can help you.). You may want to design a sign to let people know what you are doing if you are on public lands. The transect is marked by 2 **parallel** lines (made from string) that are 300 feet long and 15 feet wide.

Once your transect is set, you can collect data on your butterflies by walking outside the transect along one of the lines. You don't want to walk inside the transect because that will disturb the vegetation. Take a photograph of each butterfly that is inside the transect (including sitting on the string). Be sure that your photograph is clear so that you can identify your butterfly when you get home.

At home, go to the website: http://www.butterfliesandmoths.org/checklists. In the boxes, select Species Type: "butterflies" and for Region: "United States," "Colorado," and your county in the last box (each will appear as a separate box). This will give you a list of butterflies found in your county. If you click on the individual species, you will open a page with lots of information and photos of them.

You will have to spend time learning your butterflies, but you will get better. You could make your own guide book with information and photos of the butterflies by copying the information into a word document, and then saving it. This personalized guide book will help you as you collect your data.

The last step is to report your data to the Florida scientists. A parent (or if your club is working on this project, your leader) will need to registered on the website. That website is https://www.flmnh.ufl.edu/wings/index.asp. This website has lots of information to support you in your project. Not all the butterflies you find will be reported, because the scientists are keeping track of only the most common species. All this information can be found in the project book and facilitator's guide.

Have a blast being a butterfly scientist this summer!

Age Appropriate:
4th—HS grades

Time Required:
Spring to Fall

Materials: (supplies are at home improvement stores)
- 30—60 stakes
- Hammer
- 610 feet string (surveyors' string works really well)
- Measuring tape
- Flagging tape
- Camera

The Set-up:
- Get permission to set up transect
- Scout area for butterflies.
- In a space that is at least 300 feet long and 15 feet wide, hammer a stake into the ground.
- Use the measuring tape from that stake, in a straight line, measure 300 feet, hammering a stake every 10—20 feet
- Tie the string on the first stake, and walk down your line, looping the string on each stake. Tie the string to the last stake.
- Measure 15 feet across from each stake, and hammer in another stake.
- Measure the second row of stakes to make sure that they are 300 feet long.
- Tie the string on the 2nd row's first stake, and walk down your line, looping the string on each stake. Tie the string to the last stake.
- You should have 2 parallel lines that are 300 feet long and 15 feet wide.

The Clean-up:
- Remove stakes and string in the Fall after butterflies leave

Power Words
- **parallel**: side by side, having the same distance continuously between them.
- **population**: group or type of animals living in an area
- **subset**: part of a larger group of related things