Activity
Identify members of the six butterfly families using your new skills.

Science Connections
Comparing—Scientists see how things are alike and different by studying their characteristics.
Classifying—Scientists group things into categories.

You may get only a few seconds to see a butterfly. As you master the identifying characteristics for butterfly families and individual species, you will know which field marks to look for to tell butterflies apart.

Stewardship Quest
Each family consists of many species. What happens if a species becomes extinct? Learn more about the causes and what can be done to stop the pattern of extinction.
Solve it: Which clues fit these suspects?
Most field guides show a silhouette or an outline of the actual size of the butterfly. Does your field guide show actual sizes?

Match the silhouette and description to the family name. Write the correct name in the blank next to the description.

- **Very small to medium and hard to identify**
  - Short, stout body
  - Hooks on tip of antennae
  - Darts quickly and low to the ground
  
- **Four walking legs**
  - Wings stretched out and still when feeding
  - Many feed on tree sap, rotting fruit, dung and carrion

- **Largest butterflies of any family**
  - Flutters wings at flower
  - Males puddle, often in groups
  - Nearly all have tails

- **Small**
  - Wings stretched out and still when feeding
  - Often orange-brown with metallic markings
  - Wing apexes are often pointed

- **Small**
  - Holds wings together over back when feeding
  - Hairstreaks, blues and coppers
  - Hairstreaks “shuffle” their wings and hair-like tails

- **Small to large**
  - Holds wings still, together over back when feeding
  - Males puddle, often in groups
  - White, yellow or orange color can vary by season and gender.

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Swallowtails  
Whites/Sulphurs  
Skippers  
Brush-foots  
Metalmarks  
Gossamer Wings

After you finish, compare your answers to the key on page 96.
Spot the family
Use your new skills to identify the butterfly’s family.
Can you name each butterfly? Use a field guide for help.

The six butterfly families:

A. Swallowtails (Papilionidae)
B. Whites and Sulphurs (Pieridae)
C. Brush-foots (Nymphalidae)
D. Gossamer Wings (Lycaenidae)
E. Metalmarks (Riodinidae)
F. Skippers (Hesperiidae)

Compare your answers to the key on page 96.
Because she lived on a farm in an area where there were not many children, “I had to make my own fun,” said Dr. Jacqueline Miller. Dr. Miller is a well-known lepidopterist with The McGuire Center for Lepidoptera and Biodiversity Research at the Florida Museum of Natural History in Gainesville, Florida.

Dr. Miller remembers bringing her mother all sorts of interesting things from her outside explorations. “There was an oil shale deposit not far from the house, and I remember one time I brought several fossilized plants that I had found. My mom was quite astonished,” Dr. Miller recounts. Her parents always encouraged her natural curiosity.

**Much is left to discover**

Now she brings newly discovered butterflies and moths to the McGuire Center. A major part of her job is to survey areas and see what butterflies and moths occur there. She also describes new species.

“There are so many butterflies and moths waiting to be discovered. Despite all of the work that has been done and published over the past three centuries, we simply don’t know what is still out there!” she says. This is especially true of butterflies in remote mountain ranges in other parts of the world. Dr. Miller has traveled widely.

**Conservation areas are needed**

Why is it important to discover new species? “The reason is that many are uncommon or rare in museum collections. A number of these species may occur in the same or similar habitats. We need to learn more about them so we can begin to set aside conservation reserves to save them,” Dr. Miller said.

She tells youth who are interested in science to sharpen their observation and communication skills. “Learning the parts of a butterfly and their wing markings, and observing their behavior and interaction with other species are important. Effectively recounting these observations and details will help you in any field of science or for that matter in any work that you do,” Dr. Miller said.
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**Journal Reflection—Write your thoughts here**

Many lepidopterists specialize in one butterfly family. Explain why you think this might be helpful.

Why would you choose to specialize in one butterfly family as you complete WINGS?

Which family would you choose?

**Questions to discuss with your helper**

How’d it go?
- Which characteristics gave you the best clue as you identify the families?

Go back
- Why is your journal a good resource for helping you learn about butterfly families?
- What other resources are available to help you identify the butterfly families?

Go bigger
- How can learning about butterfly families help you learn about the families of other insects?

Go beyond
- How does the skill of comparing help you make choices in your daily activities?

**Learn More!**

**Create a skill-a-thon**

Introduce butterflies to your club, families or others with a skill-a-thon you create using your new butterfly identification skills. A skill-a-thon is a series of stations presenting different activities or challenges to complete. Examples of stations might include using a field guide to locate a specific butterfly, arranging the life cycle in order, matching pictures of butterflies with field marks or grouping butterflies according to family characteristics.