Look at a specimen

Your quest

At the field station, choose one preserved butterfly, look at its wings without touching them, then slowly tilt your head from side to side and notice whether any of the colors seem to shimmer or change.

Science hook

A butterfly wing is covered in tiny scales that overlap like tiles on a roof, and some scales get their color from pigment while others make color with their shape. The blue of ***Morpho helenor*** comes from tiny layered scales that bounce light back rather than from a blue pigment, which is why a color like that can seem to shift as you change where you look from.

FIND OUT MORE

https://butterfliesandboardgames.com/collection?src=quest-pollorosa

Find a family clue

Your quest

Pick one preserved specimen at the field station, look slowly at its wings and legs, and find one clue that hints at its family, such as a tail on each back wing or small, hairy front legs it doesn't walk on.

Science hook

Scientists sort butterflies into families by putting several clues together: the pattern of veins in the wings, the shape of the legs, and the usual shapes and colors of the wings. Swallowtails are often big, and many carry a tail on each back wing, while whites and sulphurs tend to have white or yellow wings, often with dark marks.

FIND OUT MORE

https://butterfliesandboardgames.com/invisible-world?src=quest-pollorosa#families

POP-UP QUEST · BUTTERFLIES & BOARD GAMES

Butterfly or moth?

Your quest

At the field station, pick one preserved butterfly and one preserved moth, then compare the tips of their antennae and the shape of their bodies, and tell your grown-up which clues match and which surprise you.

Science hook

Butterflies and moths sit in the same insect order, Lepidoptera, and most butterflies have antennae that end in small clubs, while most moths have thread-like or feathery ones and often thicker, fuzzier-looking bodies. None of these clues works every single time, since some moths fly by day and some even have clubbed antennae, so scientists check several features together before deciding.

FIND OUT MORE

https://butterfliesandboardgames.com/invisible-world?src=quest-pollorosa#moth

POP-UP QUEST · BUTTERFLIES & BOARD GAMES

The question quest

Your quest

At the field station, choose one thing you wonder about, perhaps a topic such as "How butterflies breathe," "How they taste" or "Exoskeleton structure," and ask Lucy your question yourself.

Science hook

A butterfly has no bones and no lungs: it wears a hard skeleton on the outside, and air slips in through small openings along its sides, then travels down branching tubes all through its body. Its feet carry taste sensors, and many kinds can see ultraviolet, a color that human eyes cannot pick up.

FIND OUT MORE

https://butterfliesandboardgames.com/invisible-world?src=quest-pollorosa#ask-lucy

Play a game

Your quest

Find the Game Guide table, choose one game with your grown-up, and play it together from the first turn to the last before you come back to the field station.

Science hook

A butterfly has no lungs, so air slips in through tiny holes along its sides called spiracles and moves down branching tubes to every part of its body. Its skeleton is on the outside, a hard covering that guards the body and helps keep it from drying out, while the muscles hold on from the inside.

FIND OUT MORE

https://butterfliesandboardgames.com/invisible-world?src=quest-pollorosa#curiosities

POP-UP QUEST · BUTTERFLIES & BOARD GAMES

Spot a tiny detail

Your quest

At the field station, pick one preserved specimen and look closely, without touching, until you can point out one tiny detail: overlapping wing scales, a thin vein, or the shape of an antenna tip.

Science hook

A butterfly or moth wing is coated in small scales that overlap like tiles on a roof, and some get their color from pigment while others shine because of the tiny shapes built into them. Thin veins give each wing its shape, and antennae offer another clue, since most butterflies have a club at the tip while most moths have thread-like or feathery ones, though a few break that pattern.

FIND OUT MORE

https://butterfliesandboardgames.com/invisible-world?src=quest-pollorosa#venation