

How to be a citizen scientist

Professional scientists can't be everywhere all the time. You can help them collect research data by participating in a citizen science program. By identifying species, counting them and documenting where you see them, you can help scientists understand how ecosystems work. You may even be inspired to develop a scientific study of your own. Here are two online programs that will allow you to record observations.



- Nature's Notebook guides observations of the life cycle changes in plants, insects and animals. It allows you to add your observations to a national database.

iNaturalist

- Take a photo and upload it to iNaturalist. When you do this, you are adding your data to a global data base.

Try This



Many species of bees, butterflies, moths, birds and other types of wildlife pollinate flowers. If you observe a species that you are curious about, try to identify it using Seek by iNaturalist or a field guide.

KID QUEST OBSERVING BEES

April-June 2020



"Bee" a Citizen Scientist!

In our ecosystems, bees play the crucial role of pollinating plants. When bees land on blooms, pollen grains adhere to hairs on their bodies. They spread pollen from flower to flower and help plants produce seeds that will grow. Observing this process is interesting to scientists. You can help contribute to bodies of research data by observing bees. Learn how you can get started being a citizen scientist with this edition of Kid Quest.

**LEWIS
GINTER**
BOTANICAL
GARDEN

KID QUEST

Sit by a patch of flowers in your backyard, relax under a tree in bloom, or go on a walking bee hunt. However you observe bees, count how many bees you see on flowers by making tally marks below. Identify the bees using the photos. If you wish, take it a step further. Try to identify the flowers too. Seek by iNaturalist is fantastic app for identifying insects, animals and plants. Printed field guides are also helpful identification tools.

HONEY BEE

Honey bees make honey and preserve it in hives. In the wild, they build hives in hollow trees or crevices in rocks. Honey bees live in communities and all have jobs to do. Some care for the young. Some collect pollen and nectar. The queen's job is to lay eggs.

- **Make tally marks to count how many honey bees you see on flowers.**



GREEN SWEAT BEE

Tiny green sweat bees are generalists. This means they pollinate a variety of flowers, including small ones that larger pollinators skip. Males and females look a little different. Both are green, but males have yellow and black stripes on their abdomens.

- **Make tally marks to count how many green sweat bees you see on flowers.**



BUMBLE BEE

Bumble bees build hives in holes in the ground or bunches of dry grass. In early spring, you may spot queens who have emerged from hibernation. They will be hungrily feeding to gain energy to lay eggs. By early summer, their first broods are buzzing around.

- **Make tally marks to count how many bumble bees you see on flowers.**



CARPENTER BEE

Carpenter bees have shiny, black abdomens, which distinguishes them from bumble bees. Although the two species are different, they both buzz pollinate. This means they vibrate flowers until pollen is released. Tomatoes can only be pollinated this way.

- **Make tally marks to count how many carpenter bees you see on flowers.**

