



Asian hornet

MONITORING





6. Monitoring and data analysis

Information for the teacher

When you hang a hornet trap, you have actually started a scientific experiment. Through Vespa-Watch and other citizen science projects, the data from these traps are collected to understand where, when and to what extent Asian hornets occur. This is called **monitoring**.

Every week you collect the capture data: the number of hornets caught compared to other insects. By comparing this data over several weeks, you can see patterns, such as peaks in activity or seasonal changes. This is data analysis in action.

The goal is twofold:

1. Local: Students see their own impact, they observe whether their fall works and how effective it is.
2. Scientific: the data can be part of larger datasets, used by researchers and administrators to map trends and distribution.

The combination of own observations and shared data makes this activity a practical example of **citizen science**: learning how science works and contributing to real research.



DID YOU KNOW ...

in spring (March–May) only **queens** end up in your trap? They wake up from their hibernation site (e.g. in woodpiles, cavities or sheds) as soon as the temperature rises above $\pm 12^{\circ}\text{C}$. Their first task is to build a primary, small embryonic nest in sheltered places (such as garden sheds, under gutters or lean-tos). From this nest they raise the first workers. It's believed that each captured queen could potentially prevent the formation of an entire colony, since she might otherwise have founded a nest. A colony can catch thousands of pollinators in one season.

More information: [Detect nests - Vespa-Watch](#), [Catch queens - Vespa-Watch](#) and [Mijn Tuinlab](#)

LEARNING OBJECTIVES

- STEM – Collecting and analyzing data
- World Orientation – Learning about biodiversity





Activity



variable

In short

By monitoring their homemade trap, students collect data on the catches. They learn to recognize species, keep track of numbers and draw conclusions.

Supplies

- Worksheet 6.1
- Magnifying glass or magnifying glass (optional)
- Recognition cards (free download via [Natuurpunt](#) or [Webwinkel Ark](#)) or use the app [Obsidentify](#)
- Graph paper or tablet

Lesson flow

1. **Daily monitoring** (at a fixed time, ideally just before or just after a playtime)
 - Students will accurately count the number of Asian hornets and also note other insects caught on the observation sheet (see Worksheet 6.1). Take a picture of all the insects caught.
 - If available, use a magnifying glass to better view and recognize the insects using the recognition card. If there are animals that you don't recognize, enlist the help of the app [obsidentify](#).
 - Briefly discuss what they see: what types are there? Are they mainly hornets or also other insects?



TIPS FOR SAFE MONITORING

- Children should never open a trap themselves. Only an adult is allowed to do this.
- Never touch the hornets with your hands: the Asian hornet can sting.
- Is there an Asian hornet trapped? Put the whole trap in the freezer:
 - **30 minutes** → insects stunned
 - **24 hours** → insects dead
 - Report your results [here](#).

WHAT ABOUT BYCATCH (BEES, BEETLES, ETC.)?

- Set the trap in a quiet place, away from the children.
- Open the trap carefully and let the insects fly away.
- Close the trap tightly before putting it back.



In this way we work safely and protect the beneficial insects that we do not want to catch.

2. Create chart

- Have each group make a bar graph with their collected data on graph paper or digitally on a tablet.
- The graph shows the number of Asian hornets and other insects caught per period, so that differences and trends become visual.
- Explain how a bar graph works and why it is useful to display data in this way.



3. Discussion of results

- Discuss in class what stands out in the graphs: are there peaks in the number of hornets caught? What about bycatch?
- Have your students think of possible explanations for the trends (e.g., season, weather, location of the fall).
- Explain that this data is also shared with researchers via citizen science platforms such as Vespa-Watch, so that their work contributes to greater scientific understanding.

4. No catch? Good news!

- Didn't you catch an Asian hornet? Fantastic! This means that your school is still hornet-free and that is also important news for researchers. Scientists not only need information about where the hornet is, but also about where it does not occur.
- What now? Watch the catch and observations of other insects together. They deserve at least as much attention! Organize an insect election:
 1. Place photos of the observed insects on the ground or display them on the board.
 2. Have students stand next to it and choose their favorite.
 3. Vote for categories such as:
 - "Coolest wings"
 - "Creepiest buzzer"
 - "Best disguise"
 4. **Tip:** have students give short pitches about why their insect should win.
 5. End the activity with a festive result: "*The most impressive buzzer is...*" And don't forget: you can be proud of your result. "*We are a hornet-free school and we are proud of that!*".





Worksheet 6.1 – Monitoring the Asian hornet

NAME:	
CLASS:	DATE:
TRAP LOCATION:	TRAP NO.:

TIPS FOR SAFE MONITORING OF ASIAN HORNETS

- Never open the trap that contains a hornet without the help of an adult.
- Never touch the hornets with your hands. The hornet can sting.
- Put the trap back as you found it.
- Report your results via the hotline.

WHAT IF ANOTHER CRITTER IS TRAPPED?

Sometimes there is another insect in the trap in addition to the Asian hornet, such as a bee or beetle. Take a picture and try to find out the name of the animal. What you do: Do not open the trap yourself, but ask for help from the teacher or an adult who knows how to handle the trap safely. The adult releases the insects freely in a quiet place. In this way, we not only protect ourselves, but also the insects we don't want to catch!

1. Recognition and control

How do you know it's an Asian hornet?

- ☐ Black breast
- ☐ Yellow legs
- ☐ Orange/yellow band on abdomen



Take a picture of a captured specimen (for confirmation by an expert).

2. Weather conditions

(To be supplemented with each observation because weather affects the catch)



Sunny



Cloudy



Rainy



Wind direction

3. Observation table – day by day

(Check-up 1x per school day at a fixed time, e.g. just after afternoon playtime)

Date	Weather	Number of Asians hornets	Other insects	Comments (e.g., behavior, damage, new nests nearby)



4. Analyse after one month

A. On which days did you catch the most Asian hornets?

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B. On which days did you catch the least?

.....

C. Do you see a connection between the weather and the catch?

☐ Yes, explain :

.....

☐ No / not sure

.....

D. Are there more or fewer catches as the month progresses?

.....

E. Did you find anything striking in the trap?

.....

5. Create chart

Use your data to create a bar graph . This way you can quickly see at which times they were most active

- X-axis = days of the month
- Y-axis = number of Asian hornets captured.

