INSECT HOTEL: TEACHERS NOTES

This activity helps students discover why insects are so important. Students will study the importance of insects in our ecosystem and then help to build an insect hotel.

Suitability Guide		
Mild learning difficulty	✔	Yes
Moderate learning difficulty	✔	May require further differentiation and support for some students, see below
Severe learning difficulty	✖	May not be suitable
Profound and multiple learning difficulties	✖	May not be suitable

Further differentiation and support needed for students with:

- Visual impairment
- Fine motor skills delay.

Learning Objectives:

Students will learn to:

- Understand why insects are important;
- Build an insect hotel.

Activity Overview

In this activity students will explore the role of insects in the food chain, and that they pollinate plants. The students will then work together to build an insect hotel for their school grounds.

Skills Builder Essential Skills

In this activity students will have the opportunity to demonstrate creativity steps 0-5 and problem solving steps 0-2. See the Skills Builder extended framework (https://www.skillsbuilder.org/sen-old) for more explanation.

Example Activity Plan

The plan below is just one example of how you could deliver this activity. It is based on an 80-minute session with 15 students with mild and moderate learning difficulties working independently, with a teacher and two support assistants. You should augment this plan according to the needs of the group that you will be working with. Some examples of how you could do this can be found in the section Differentiation Ideas. If you are a facilitator or STEM Ambassador delivering this as a workshop, speak to your host about the best approach for you to take.

Inventory

You will need:

- 16-25 x tubes or other receptacles (see Tips and Tricks).
- Insect hotel nesting materials (see Tips and Tricks) Make sure that you have enough to fill the tubes.
- Insect hotel structure such as a wine crate or other wooden box of a similar size.
- 15x insect hotel Worksheets.
- 1 x insect hotel Presentation.
- 1 x insect hotel Teachers Notes.
- 10-15 x pairs of scissors.

Preparation

You will require the room to be set up for tables of three, plus a demonstration table at the front of the room. Make an example version of a filled receptacle or tube for the students to look at.

Sequence

Use the following sequence to plan this activity. You may wish to adjust the timings according to your style of delivery, group and workshop length.

Time (min)	Sequence	Instructions	Slides
5	Welcome and introduction 	Introduce yourself, the HS2 project and the learning objectives for the lesson.	1-3
5	Food chains and pollination 	Introduce some of the themes of the lesson. Explain to the students why insects are important, using the slides. Examine how insects are an important food source for many animals, and that they pollinate flowers.	4-6
20	Challenge 1: Why are insects important? 	Introduce Challenge 1 using the slides. Students have 20 minutes to complete the two challenges. You could work through the first food chains on the board yourself. Alternatively, you could work through all activities as a group.	7

5	Insect hotels introduction 	Introduce Challenge 2. Explain how insect hotels help insects. Demonstrate how the insect hotel will be built and show students how to fill their containers.	8
35	Challenge 2: Build an insect hotel 	Make sure that each table has a supply of materials. Instruct students to start building. Decide what you want students to do with each container when they are finished; they could bring it to the front to install in the box, or you could collect it from their desks.	8
5	Tidy-up time	Students should tidy their desks.	
5	Plenary & careers link  	Use the plenary questions to recap the students learning, linking the session themes to careers and the wider world. You may wish to show the Careers Video for Students with SEND and the Careers Link slide to introduce the students to careers in Ecology.	9-10

Questions

Use the following questions to stimulate the students' thoughts during the session:

- What would happen if there were no insects?
- How else can we help insect populations to thrive?
- Why are insects important?

Tips and Tricks

- This 80-minute lesson includes thirty minutes for students to assemble the insect hotel.
- You will need to source materials for the containers that each student will fill, the filling and the overall structure of the insect hotel.
  - For the containers you could use tubes of various sizes, tins, 2L plastic bottles with the top half cut off, crisp tubes cut into sections or carpet tube cut into shorter sections. Organic or breathable materials are better for this; carpet tube is the most ideal. Provide all these pre-cut and prepared for the students with any sharp edges trimmed off.
  - For the main structure you could use a wine crate or other similar sized wooden box. The insect hotel shown in the presentation uses a drawer from an old bedside cabinet. You should aim to fill enough tubes to fill the size of the box that you have.
  - For the nesting materials include bamboo sticks, dried leaves, cardboard, loose bark, pinecones, reeds or straw cut into short pieces, or mason bee nesting tubes. The insect hotel shown in the presentation uses a supermarket carrier bag of materials, found around a garden.
- Include enough containers so that the students can fill the entire structure. Students can fill more than one container each if they have time. The box can also be packed with more nesting materials around the tubes.

- If you are not a Design and Technology teacher, you may want to ask a Design and Technology teacher or technician to help prepare some of the nesting materials for you.
- Find a sheltered place for your insect hotel. If a sheltered area is not available, prop the box at an angle to aid with water run-off from the roof.
- You could add stakes to the box to aid stability or mount it to a vertical surface such as a fence to prevent it from blowing over.
- Increasing biodiversity is a great way to further support insect populations around your school. You could extend on this theme by having students cultivate a range of bee-friendly plants to be planted out in the school grounds. This is a great activity for form time or form groups, or you could start an ecology club.

Differentiation Ideas

- Examples are important here, especially for visually impaired students. Make sure that you have enough examples for students who might need them.
- Make sure that students with mobility impairment can access all parts of the learning. Make sure that all the materials that they will need are on the table, and if you are assembling the insect hotel in the classroom, ensure that they can access it.
- As an extension for more able students, ask them to research a common UK insect. Students should find out about their habitat, lifecycle and where they fit in the food chain.
- You could skip Challenge 1 or extend the lesson to include a trip outdoors to collect materials within the school grounds. Make sure that the area you are foraging will be accessible to all students. Prepare some pre-collected materials in case of rain.
- Supply gardening gloves for students who might be uncomfortable about touching the nest materials.

Answers

Challenge	Answer
1	a) Plants ➜ Caterpillars ➜ Birds b) Pond Weed ➜ Water Boatman ➜ Newts c) Rotting matter ➜ Flies ➜ Spiders ➜ Hedgehogs d) Food, Animals, Flowers, Pollen, Plants
2	Students should participate fully, filling the container with nesting materials.