

## Learner Worksheet – *Ecosystem in the Dark* – Observation Sheet

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Class / Group: \_\_\_\_\_

- ☐ We did **Option A – Indoor role-play**  
☐ We did **Option B – Outdoor mini-experiment**  
(Educator: ask Learners to tick the correct option.)

### PART A – Before we start

1. In your own words, what do you think “**artificial light at night (ALAN)**” means?

2. Choose one species from today’s activity (for example: bat, moth, frog, plant/tree, human).

**My species:** \_\_\_\_\_

a) What does this species normally do at **night** in a naturally dark environment?  
(feeding, resting, hunting, pollinating, calling, sleeping, etc.)

b) What does this species **need** from its habitat to survive at night?  
(for example: darkness, insects, water, quiet, shelter)



Co-funded by  
the European Union

**PART B – Observations during the activity**  
**Option A – Indoor role-play, use this table:**

**Round 1 – Natural darkness**

Minimal artificial light; we imagine a dark, natural night.

- What did your species do?
- Was it easy or difficult to move, feed, rest or communicate? Why?

**Round 2 – Some artificial light**

A few warm, low-level lights are on.

- What changed for your species compared to Round 1?
- Did your species move **towards** or **away from** the light? Explain.

**Round 3 – A lot of artificial light**

Many lights are on, including bright / cold LEDs. The room is like a brightly lit town at night.

- What changed now for your species?
- Did your species stop doing anything it was doing in natural darkness?  
(for example feeding, hunting, calling, pollinating, resting)



**Co-funded by  
the European Union**

**Option B – Outdoor mini-experiment, use this table:**

Visit all three zones and fill in one row per zone.

Zone / Light type	Approx. number of insects or animals seen (none / few / many)	What were they doing? (circling light, resting, avoiding area...)	How bright does it feel? (very bright / medium / dim / dark)	Notes about plants nearby (flowers, trees, bushes...)
Cold, bright LED				
Warm, dimmer bulb				
Darker comparison area				

1. In which zone did you see the **most insects**?

2. In which zone did you feel **most comfortable** standing? Why?



**Co-funded by  
the European Union**

## PART C – Ecological consequences

Answer these questions after the activity (for **either** option).

1. List **three possible long-term effects** of too much light at night on:

**a) Animals (for example bats, moths, frogs, birds):**

- 1.
- 2.
- 3.

**b) Plants and trees:**

- 1.
- 2.

**c) Whole ecosystems (relationships between many species):**

- 1.
- 2.

2. From today's activity, which species do you think is **most sensitive** to light at night?  
Why do you think so?

3. Complete one of the sentences below:

- *The biggest problem with artificial light at night in nature is...*

4. **or**

- *The species I am most worried about is... because...*



**Co-funded by  
the European Union**

## PART D – Responsible lighting and action

1. The **five principles of responsible lighting** are often summarised as:

- Only light **when** needed.
- Only light **where** needed.
- Use the **minimum brightness** needed.
- Use **warm-coloured** light.
- **Shield** lights so they shine downwards, not into the sky or windows.

Choose **one** place you know (for example your street, your garden, the school entrance, a car park) and write:

Place: \_\_\_\_\_

a) What is **good** about the lighting there?

b) What could be **improved** using one or more of the principles above?

2. One small, realistic change I could support at **home, school or in my town** to reduce light pollution is:

3. Tonight, when it gets dark, I will pay attention to:



Co-funded by  
the European Union