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### 1 - HOUR LESSON

# SUSTAINABLE LIVING: BUILDING BIODIVERSITY

ARUP





### About this lesson

**Objective:** to understand the impact people have on biodiversity and generate solutions that meet the needs of people and nature

#### Before the lesson you will need to:

- Print the TEACHER Instructions, or have them to hand
- Have the PowerPoint ready to share on screen
- Print and copy the Posters, enough for two sets (large paper recommended)
- Print, copy and cut the Challenge keywords as needed

## This lesson develops

Sustainable Development Goals



Skills



**Step 9** I create solutions for complex problems to do with biodiversity by generating a range of options

#### Step 10 I create solu

I create solutions for complex problems to do with biodiversity by evaluating the positive and negative effects of a range of options



**Step 2** I can use important vocabulary, specific to discussions about biodiversity and design

# **TEACHER** INSTRUCTIONS

### ACTIVITY ONE

Show slide 2 of the *PowerPoint* on screen and read the KEYWORD aloud. *Ask:* why is biodiversity important for the planet? Share ideas together. Prompt students to think about the plants, animals and environments that are important for people to live and thrive. *Challenge:* for more able students, introduce the *Challenge keywords* – they should try to use each word at least once during the lesson.

**Explain:** in this activity you will explore some statistics from the news about biodiversity.

Show slide 3 – read the statistics and blanks aloud. Write the first number below on the board and **ask:** which statistic is this number part of? Repeat with the remaining numbers. If a newly-revealed number makes students change their mind about a previous answer, they can swap numbers around. Reveal the answers on slide 4 and discuss any surprises.

- 75
- 1
- 83
- 70
- 0.01

**Ask:** do these statistics reveal good news or bad news about biodiversity? Share ideas together.

### ΑCTIVITY TWO

Split the class into two groups: A and B. Groups should discuss their corresponding questions on slide 5. Share ideas together.

#### Show slide 6.

Groups should discuss the problem that their group is facing and suggest what should happen next. Give time for students to reflect on how people and nature need different things.

Show slide 7 and read it aloud. In pairs, students should generate solutions that would help both people and nature (for example, in this case, ideas for how housing could be built in a way that creates, or still leaves space for, biodiversity).

Invite pairs to share their ideas, then **ask:** which idea would be easiest to do? Which would be hardest? Share ideas together. Have a vote for the best solution – give the winning pair a round of applause. Reveal some real-life solutions by experts on slides 8-9 and invite students to share their opinions.

Repeat this process for a new set of conflicting needs on slide 10. The expert solutions are on slides 11-13.

**Challenge:** can students think of their own examples of how people and nature have conflicting needs? What solutions would give both people and nature what they need? **Supporting prompts:** people need to farm <u>but</u> species need protecting; people need to enjoy the planet <u>but</u> the planet needs to be preserved; people need to use natural resources <u>but</u> habitats need to be preserved.

### ACTIVITY THREE



### SPEEDY REVIEW

What new vocabulary have you learnt from this discussion?

What do you need to know about a problem in order to generate solutions for it? How confident are you with generating ideas about making space for biodiversity?



**Explain:** the news is full of stories about how people are designing future spaces with biodiversity in mind. However, a lot of work is also going into adapting and improving pre-existing spaces.

Give one set of *Posters* to each group. Students should move around drawing and writing on the pictures to explain how people could adapt pre-existing spaces to help promote biodiversity. Encourage students to reflect on previous discussions – their previous ideas might work again.

Invite each group to share their best ideas from the *Posters*. After each idea, *ask:* could our area benefit from this idea? How easy would it be to do this? Share ideas together.

**Challenge:** which spaces at your school could be adapted to promote biodiversity? Students should make a plan for how to implement their suggestions.























# **Challenge keywords**

Want an extra challenge? Try to use each of this lesson's keywords at least once during your discussions. Tick them off as you go.



**Biodiversity** = all the different kinds of life you'll find in one area – the variety of animals, plants and even micro-organisms like bacteria, that make up our natural world. Each of these species and organisms work together in ecosystems, like an intricate web, to maintain balance and support life



**Ecosystem** = a biological community of interacting organisms and their environment – for example, rainforests are ecosystems made up of living beings such as trees, plants, animals, insects and micro-organisms, that are in constant interaction between themselves and their environment. Other examples of ecosystems include savannas, deserts and coral reefs



**Ecosystem services** = the benefits to humans that the natural environment and healthy ecosystems provide. Physical examples of these benefits include food, water and the climate. Non-physical examples include the positive impact nature can have on a person's mental health, such as the reduction of stress and anxiety



**Urbanisation** = the increasing shift in the number of people living in urban areas and a decrease in the number of people living in rural areas

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