

Our ^{section A} Air

DO EITHER A.01 OR A.02 AND ONE OTHER ACTIVITY OF YOUR CHOICE. AFTER COMPLETING OUR **AIR** ACTIVITIES YOU WILL BE ABLE TO:

- >> **KNOW** and appreciate the species in your neighbourhood that live in the air
- >> **OBSERVE** and learn about biodiversity by exploring the nature around you



GROUP ACTIVITY

LEVEL 1 2 3

ACTIVITY
A.01

Explore biodiversity that lives off the ground. Put a large piece of paper or a bed sheet under a low branch. Shake the branch. Watch what flies away when you shake the branch. Examine the things that fall off the branch, such as leaves, insects, mushrooms and plants. How do these creatures get up onto the branch? Why would these creatures live above the ground? How do these creatures interact with each other to find food and shelter? What other animals might visit the branch in search of food, shelter or even a nesting site? Discuss your answers with your group.

GROUP ACTIVITY

LEVEL 1 2 3

ACTIVITY
A.02

Explore biodiversity that lives off the ground. Walk around your neighbourhood, with a pair of binoculars if possible. What do you see just above the ground in the bushes? What is living halfway up the trees or grasses? What is at the top of the canopy (tree tops)? Do you see leaves, insects, mushrooms and plants? What else? How do these creatures get up onto the branch? Why would these creatures live above the ground? How do these creatures interact with each other to find food and shelter? What other animals might visit the branch in search of food, shelter or even a nesting site? Discuss your answers with your group.

Up in the air

LEVEL **1** **2** ▲

ACTIVITY A.03

Look around your home, school, garden or park. What travels in the air? What methods do animals use to fly or glide? How do plants (their seeds and pollen) travel by air? Draw or photograph two traits that allow animals and plants to move through the air.

LEVEL **1** **2** ▲

ACTIVITY A.04

In fall and/or spring, visit a park or conservation area where bird-watching is possible. Which migrating bird species stopover there? Try to see them and listen to their songs. Create posters or drawings, or take photos for your school or home.

LEVEL **1** **2** ▲

ACTIVITY A.05

Biodiversity is full of change – just think of a caterpillar who starts out its life crawling and feeding on leaves, and then changes into a butterfly! Look for butterflies and moths in a field, a forest or a garden. Draw three types (or species) that live near you. Where did you see them – on a flower, near water, next to animal droppings, flying in the forest canopy, ...? How big were they? What colours and patterns were on their wings? Were they easy or hard to find (e.g. were they camouflaged)? Share your answers with your teacher, leader or group.

LEVEL **1** **2** **3** ▲

ACTIVITY A.06

Make a bird feeder out of recycled materials. Find out what types of food different species of birds prefer (e.g. some like fruit, others like seeds). Choose food for birds that are indigenous (native) to your area. Place your bird feeder in a place where the birds will be safe from predators. Record the number and types of birds that visit your feeder for two weeks.

www.rspb.org.uk/Images/recycled_bird_feeder_tcm9-207420.pdf



LEVEL 1 2 3

ACTIVITY
A.07

Plant a 'nectar bar' for hungry bees, wasps and flies. Grow a garden with a mixture of flowering plants and shrubs. Choose plant species that flower at different times of the year to ensure a constant supply of food for your insect guests. You might want to plant your nectar bar away from entrances to buildings and busy walkways.

LEVEL 2

ACTIVITY
A.08

Mushroom seeds are called spores, and are often dispersed by the wind. Each species of mushroom has a unique spore print (like a fingerprint). Collect three different mushroom species and make a spore print of each. For more information on making spore prints: www.mushroomexpert.com/spore_print.html or www.rspb.org.uk/Images/sporeprint_tcm9-202043.pdf

BE VERY CAREFUL, DO NOT USE POISONOUS MUSHROOMS, GET EXPERT HELP. DON'T FORGET TO WASH YOUR HANDS WHEN YOU HAVE FINISHED.



Denisa Valentina Huma, aged 10, Romania



Alia Safira, aged 11, Indonesia



LEVEL

2

3

ACTIVITY
A.09

Insects have many special traits that allow them to live under all sorts of conditions in different habitats around the world. Catch insects in a pitfall trap, sweepnet or pooter (a special collecting bottle to catch insects or crustaceans by sucking through a tube). Make an insect field guide of the different species you collected. Release the insects. If possible, invite an insect specialist (entomologist) to join you. For tips on making a pooter:

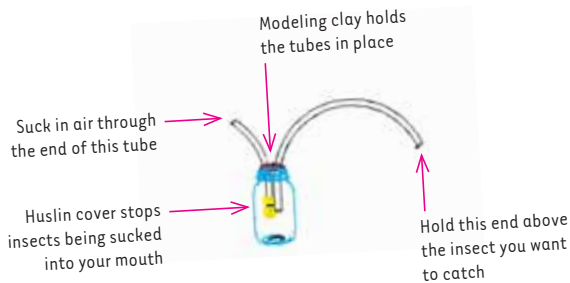
www.amentsoc.org/bug-club/fun/experiment-pooter.html

and a sweep net:

www.rspb.org.uk/Images/Make_a_sweep_net_tcm9-195580.pdf.

GROUP ACTIVITY

HOW TO MAKE A POOTER



DON'T FORGET TO PROTECT YOURSELF, ESPECIALLY WHEN HANDLING INSECTS THAT BITE OR STING! YOUNG PARTICIPANTS SHOULD ONLY TRY THIS ACTIVITY WITH ADULT SUPERVISION.

LEVEL   **ACTIVITY**
A.10

Many animals including mammals, fish and butterflies migrate. Draw the migratory routes of five different bird or insect species on a world map. How far do they travel? How long does the migration take? Where does the animal breed, stopover to rest or eat and overwinter? How do the animals not get lost? List some possible advantages and disadvantages of migrating. Why do some birds travel during winter to warmer places? Why can't they find food?

LEVEL   **ACTIVITY**
A.11

Participate in a citizen science project. A citizen science project is one in which people without any special scientific training go out in nature and collect scientific data, which are then used by scientists. BirdLife International runs a fantastic global citizen science project on birds called WorldBirds. Visit the youth link on the website for instructions on how to participate or download the guide.

www.worldbirds.org

GREAT ACTIVITY

LEVEL   **ACTIVITY**
A.12

Find out which bat species live in your area and what their habitat and food needs are. Make a bat box and set it in a suitable place. Over several weeks, observe it in the evening and into the night to see if bats move in. Record your observations. For building instructions visit

www.hww.ca/hww2.asp?id=323

or the Bat Conservation International website

www.batcon.org

Biodiversity for healthy planet

LEVEL

1

2

3

ACTIVITY A.13

Different animal species have different strategies for keeping warm or cool (such as growing thick fur coats in the winter and lighter coats in the summer), and for keeping dry or moist (such as having water-repellent feathers and living under a rotting log). Make a list of some bird, mammal, amphibian, reptile, fish and insect species. What strategies do these species use? Play a game about the animals and their strategies. (Older youth can invent and lead younger children in these games). Will these strategies work as the planet's climate changes? Why or why not?

GROUP ACTIVITY

LEVEL

1

2

3

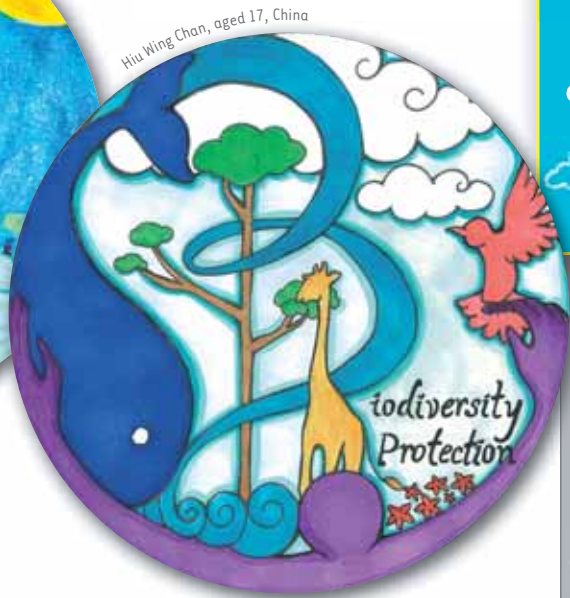
ACTIVITY A.14

After they die, plants and animals provide food for tiny creatures called microorganisms. Even though the microorganisms are too small to observe directly, you can see clues of their presence when you make biogas. With adult help, put rotting organic matter such as dirt, plants and fruit and vegetable scraps into a plastic bottle. Stretch an un-inflated balloon over the opening of the bottle. Place the bottle near a heat source or in direct sun. What happens to the balloon over the next five to ten days? Why does this happen? Think of how useful microorganisms are in the world, and what would happen if they did not exist. For more biogas ideas visit

www.pge.com/microsite/safety_esw/ngsw/ngsw/basics/experiment2.html



Sofia Victoria Martinez, aged 9, Argentina



Hiu Wing Chan, aged 17, China

Our Air

Our Water

Our Land

Our World

LEVEL 1 2 3

ACTIVITY A.15

Go on an 'energy diet' for two weeks. Create a plan to reduce your energy consumption at home, when moving from one place to another and at school. Carry it out. How much energy does each action save? How does using less energy and fewer resources save biodiversity? Challenge your friends and family to try your plan.

LEVEL 1 2 3

ACTIVITY A.16

As the climate changes, some species will have to move upwards (literally up a mountain) or towards the poles to stay in the same type of climate. What are some of the species in your area that might need to move to find cooler weather or wetter or drier conditions? What are some of the difficulties these species might have if they need to move? Draw what you think your environment will look like if these species move away.

LEVEL

2 3

ACTIVITY
A.17

Draw a map of your community. Include both natural features such as forests and rivers and human features such as buildings and roads. Identify the possible sources of pollution on your map. Remember, some pollution comes from a single source (like a pipe) while other pollution comes from many small sources (like runoff from land). How does the pollution affect biodiversity? On your map, draw arrows linking the pollution sources to the biodiversity they affect. What can be done to minimise pollution? Share your findings with your group.

LEVEL

2 3

ACTIVITY
A.18

Investigate the links between creatures that live in the air and the food we eat. Visit an apiary or invite a beekeeper to talk with your group. List the fruits, berries and vegetables that grow in your garden or around your school, parks and playgrounds that are pollinated by insects. Which insect species are the pollinators? Do these species pollinate wild non-food plant species? How healthy are pollinator populations in your community? What are the threats to insect pollinators in your community? Identify one thing you can do to help insect pollinators ... then do it!

GROUP ACTIVITY

LEVEL

2 3

ACTIVITY
A.19

Biodiversity can help to reduce the effects of climate change. Make an original video or poster showing, for example, how trees capture carbon dioxide from the air and store it. Upload your video to YouTube or present your poster to your group or school. Make sure you have the permission of everyone in the video, and their parents, before you post it.



LEVEL

ACTIVITY
A.20

Emissions trading (or cap and trade as it is sometimes called) is a tool for reducing greenhouse gas emissions. It also impacts biodiversity. Learn about emissions trading and related programmes such as *Reducing Emissions from Deforestation and Forest Degradation in Developing Countries* (REDD). What programmes are already in place in your community? Who is affected by them? How are the world's poor affected by emissions trading? Present your findings to your group. For more information see www.forestsclimatechange.org/simplyredd1.html and storyofstuff.com/capandtrade

Our Water



Our Land



Our World



LEVEL



Do any other activity approved by your teacher or leader.

Yae Chan Park, aged 12, Republic of Korea



Hana Richelle, aged 13, Philippines



Tomoe Ito, aged 20, Japan

