



TWINNING ACTIVITY: ANIMAL TOP TRUMPS

In this activity you'll find out about the mountains and uplands of the UK and UAE, and the animals that live there. Both schools will contribute to a shared card game which can then be used to learn about the animals from both regions.

IN THIS ACTIVITY YOU AND YOUR STUDENTS WILL:

- ▶ Learn about the mountain regions of the UAE and the UK, and the animals that live there.
- ▶ Find out which animals are endangered and what your students can do to help.
- ▶ Create a card game which both schools can use to learn about the animals from both regions.

OBJECTIVES

Carrying out this activity will help students learn about the animals that call the mountains of the UAE and UK home. They will also learn about some of the threats facing these animals.

Both schools will also contribute to a playable card game. This will allow your students to get creative and inventive, test their knowledge of the animals they've learned about, and encourage them to spread the knowledge they've learned with their peers, parents and guardians.

WHAT DO I NEED TO MAKE IT WORK?

You do not need anything special for the first part of this activity (which can be done in the classroom), just an internet connection to carry out some background reading.

To create the card game, you will need thin cardboard and ideally access to a computer and printer (although you can also make the cards by hand).

WHAT THINGS WILL MY STUDENTS CREATE?

- ▶ A card game. We recommend each child creating one or two cards, but you can do more if you have time.

THE MOUNTAINS AND UPLANDS OF THE UAE AND UK

Let's begin at the top! Firstly, we need to find out where in each country you can find mountains and uplands.

WHAT IS A MOUNTAIN?

- First, ask your students if they know what a mountain is. Ask them to describe it, and ask if anyone has visited any mountains. What was it like? What could they see? What did they feel? Did they notice any animals?

You can think of mountains as areas of rocky land that rise about the land surrounding them, often reaching to a peak. Their often craggy shapes are caused by erosion, where wind and water wears away some of the rock over thousands of years. Uplands are a bit less well-defined, but can be considered to be land that is somewhere around 200-500m (660-1,600ft) above sea level.

WHERE ARE THE MOUNTAINS IN THE UAE?

The emirate of Fujairah is almost entirely mountainous, being positioned on the Al Hajar mountain range which stretches down around 50-100km inland from the Gulf of Oman coast through the UAE into northeastern Oman. The highest mountain in the UAE is Jebel Jais in Ras Al Khaimah (Northern Emirates), which is part of this range (goo.gl/3UmXRF).

The mountainous region we'll be studying in detail in this activity is Jebel Hafeet, near Al Ain, in the east of Abu Dhabi (chosen as our example as it is one of the most accessible mountain areas in the UAE).

Jebel Hafeet is a stunning mountain that rises 1,240m high, and is the highest peak in Abu Dhabi, and the second highest in the United Arab Emirates. The mountain straddles the border with Oman, and there is a long road that snakes its way up most of the long slopes from Al Ain towards the peak.

- There are some great pictures of the spectacular winding road here: goo.gl/z7JyU4



Google Maps image showing the location of Jebel Hafeyt (goo.gl/f0Wjzz)

Environment: Like most of the UAE, the mountainous regions are hot and dry with very little rainfall. The ground is rocky, and at first sight it might not look like much grows there. However, look closer and you'll spot plants like the vulnerable and rare Dwarf Palm, which is unique to this area.



A Dwarf Palm. Photo provided courtesy of the Environment Agency of Abu Dhabi archives.

WHERE ARE THE MOUNTAINS AND UPLANDS IN THE UK?

The UK has a few mountainous areas and a number of upland regions.

- ▶ **Scotland** is the most mountainous part of the UK, and its mountain regions include the Grampians, Cairngorms and North West Highlands.
- ▶ Bordering **England** and Scotland are the Cheviot Hills. England also has the Lake District, and further south, the Pennines. Apart from that, England is limited more to uplands than mountains: the Peak District, Cotswolds, Chilterns, North & South Downs, Dartmoor, Exmoor and Bodmin Moor.
- ▶ **Wales** fares better for mountains, most notably in Snowdonia, which has several distinct ranges. Central Wales contains the Cambrian Mountains, and South Wales the Black Mountains.
- ▶ Finally, in **Northern Ireland** you can find the Sperrin Mountains and the Antrim Hills.

For the purposes of this activity we'll look in detail at Snowdonia. You may prefer to focus on your nearest mountain or upland region.



This Google Earth image shows the northern part of Snowdonia (goo.gl/psHfXO if you want to explore the area yourself). The Snowdonia National Park covers 827 square miles (2,140 km²) of the north-west corner of Wales.

Several of the largest peaks are highlighted in green. How many are there in the main part of the mountain range? Do your students know which one is Snowdon (Yr Wyddfa)?

There are three main ranges: the Glyderau, the Moelwyns and the Carneddau. The town of Bethesda lies at the end of the valley of which the Glyderau lie to the south-west and the Carneddau to the north-east. Nant Gwynant lies to the north of the Moelwyn range. Can your students find all three ranges? Can they find the primary rivers in the mountain ranges?

Environment: Snowdonia stands in stark contrast to the mountains of the UAE. It has a high rainfall and is covered in thin yet hardy vegetation. Crib Goch is the wettest place in the UK, with 4,473mm of rain on average per year. There are some scattered deciduous forests, and cultivated coniferous forests. The climate is cold in the winter, with frequent heavy snowfall.

WHAT ANIMALS LIVE IN THE MOUNTAINS OF THE UAE?

The mountains provide a habitat which is quite different from most of the UAE and are home to some of the rarest and most threatened animals in the UAE. Although large mammals are pretty rare, there have been several wildlife surveys of Jebel Hafeet, and researchers have found over 320 species of invertebrates (like beetles, scorpions, butterflies and spiders), over 120 species of birds (with 40 species living and breeding there) and 177 species of plant.

► *Optional:* If needed, Arkive.org has a great resource to help explain to your students what an endangered species is and how it might have become endangered that you could use before discussing these animals: goo.gl/5ZoDfD

Some of the birds, animals and reptiles that make the mountains of the UAE their home include:



If you have a picture of a Persian horned viper that we can use in this resource we would love to hear about it, otherwise you can find some pictures here on Arkive.org goo.gl/MPV8BS

The Arabian Tahr - The Arabian Tahr is a relative of the wild goat. This is one of the most endangered animals in the UAE, with the entire global population of this beautiful animal living in the northern mountains of the UAE and Oman. This is the only endemic - meaning the species naturally occurs here, rather than having travelled or moved here, and it is in danger because of hunting and habitat loss.

Arabian Tahr by Xavier Eichaker. Photo provided courtesy of the Environment Agency of Abu Dhabi archives. Further images of wild Arabian tahr can be found on the Arkive.org website at goo.gl/dps12f

Egyptian Vulture - Jebel Hafeet is the only location in Abu Dhabi where a colony of these birds exists. The species is globally threatened, and listed as Endangered in the IUCN Red List for birds.

Egyptian vulture - photo provided courtesy of the Environment Agency of Abu Dhabi archives.

Persian horned viper - This rare reptile lives in mountainous regions. It can only be found on Jebel Hafeet and in the mountains of Oman above 600m altitude.



Sand partridge - This is a gamebird that is adapted to live in dry, mountainous environments. Although it can fly small distances, if disturbed it prefers to run away!

Sand partridge By Greg Schechter from San Francisco, USA (Sand partridge) [CC BY 2.0 (<http://creativecommons.org/licenses/by/2.0/>)], via Wikimedia Commons goo.gl/3ldvLP



Arabian mountain gazelle - Fewer than 15,000 mountain gazelles are left within their natural range (Turkey and mountainous areas across the Arabian Peninsula). More than 10,000 of these are of the Arabian mountain gazelle subspecies. Mountain gazelles can reach running speeds of up to 80 km/h (50 mph).

Arabian mountain gazelle (Gazella gazelle cora) in the Dubai Desert Conservation Area, UAE. By Charlesjsharp (Own work, from Sharp Photography, sharpphotography) [CC BY-SA 3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>)], via Wikimedia Commons goo.gl/bH6pLe



Arabian leopard - Incredibly rare, incredibly hard to find, the Arabian leopard is the smallest breed of leopard in the world. Because of hunting and loss of habitat, there may be fewer than 250 adult Arabian leopards left in the wild and it may already be extinct in the wild in the UAE. The last time an Arabian leopard was spotted in the UAE was in 1976 in Jebel Hafeet (goo.gl/UaqjR2).

Arabian leopard in the Breeding Centre for Endangered Arabian Wildlife, Sharjah By Amos Hachmon (Own work) [GFDL (<http://www.gnu.org/copyleft/fdl.html>), CC-BY-SA-3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>) or FAL], via Wikimedia Commons goo.gl/yKitDex

WHAT ANIMALS LIVE IN THE MOUNTAINS OF THE UK?

Much of the UK's mountain landscape is currently, or historically, used for agricultural purposes. Consequently, the fauna is now much different than it would have been some thousands of years ago.

Otters can be found in Snowdonia as well as an increasing range of upland and lowland parts of the UK. Whereas otters were previously rare, they are making a significant comeback.



Source: Wikimedia Commons, author Davepape. Public domain.

Otters have powerful webbed feet which they use to swim, and live largely aquatic lifestyles. They are well adapted to this, with thick, waterproof, buoyant fur, muscular tails to propel them, and the ability to hold their breath for long periods of time when they dive for food.

Otters eat fish, frogs, and where available, freshwater crayfish.



Source: Wikimedia Commons, author Joe King. License: Creative Commons Attribution-Share Alike 3.0 Unported.

Feral goats are believed to have been roaming the mountains of Snowdonia and elsewhere in the UK for 10,000 years. Recently their numbers have increased significantly, leading to damage to property and gardens around the National Park, and an impact on forest regrowth. Because of this they have been culled by marksmen to reduce their numbers.

Sheep farmers are often in support of goat populations, as they control the steeper, higher ground which would be treacherous for sheep should they venture there. Goats can produce human-like cries which have sometimes been mistaken for lost walkers' cries for help.



Source: Wikimedia Commons, author Peter Trimming. License: Creative Commons Attribution 2.0 Generic.

European polecats are mustelids, like otters. However, they are entirely land-based. These enthusiastic hunters eat small mammals such as mice, voles, rats and rabbits.

Like other mustelids such as weasels, polecats sometimes use a "weasel war dance" to bamboozle their prey, darting around and spinning and twisting in the air. They are solitary animals in the wild, but their domesticated relatives, ferrets, are very social animals.

Once widespread across the UK, the polecat competed with gamekeepers for rabbits and other game, so was persecuted to the point of rarity. However, recently polecat ranges are spreading, and they are now found in a number of regions around the UK. You can see a map of confirmed ranges here: goo.gl/PQcN7q.



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Red kites were widespread in the Middle Ages, but treated as vermin, and alternately persecuted and protected, as they performed the useful function of clearing up carrion and rotting food from the streets. Their natural diet is a combination of small mammals and carrion.

Red kites survived in tiny populations in South Wales, but since great efforts were made to protect them, they have thrived and spread outwards across the UK, as far south east as the Chilterns. There are now at least 1,600 breeding pairs.

- ▶ *Optional:* Ask your pupils to research one of the animals, birds or reptiles above, and record 5 facts about the animal, which could include where they live, what they eat, what hunts them, why they are at risk and any conservation efforts that are being made to save them.
- ▶ You may want to find some additional animals to talk about, and there is a great list of UAE animals on UAE interact (goo.gl/jXYkaA) that links out to more information on each animal. For the UK, Wildlife Watch has a good list (goo.gl/v6oq3x).

WHAT IS BEING DONE TO HELP ENDANGERED ANIMALS?

It's very important to know first of all how many endangered animals there are and where they live, that way you can monitor the population to see if it grows or shrinks, and protect the areas they live.

There are also captive breeding programs, where animals in zoos are bred to produce new young animals, which can be released back into the mountains to boost the wild population.

Finally, education and information is very important. By ensuring everyone knows why these animals are important, they are less likely to hunt and kill them, and more likely to help save them.

- ▶ *Optional:* Ask your class to do a questionnaire asking their parents or guardians, brothers and sisters, friends and neighbours; which of these endangered species they know about, and whether they knew they were endangered. You can compare the results in class.

WHAT ELSE CAN WE DO?

You can also find out more about which animals are endangered by visiting IUCN Red List website (goo.gl/ijT7MH). IUCN stands for the International Union for Conservation of Nature. This lists all the plants, animals and insects, both on land and sea, that are endangered around the world. This list is updated every year.

You can also visit the Al Ain Zoo (goo.gl/yh65VH), the Arabian Wildlife Centre in Sharjah (goo.gl/EKS0qj) or your local UK zoo (see below) to find out more about the wildlife of the area and conservation measures taking place. Many zoos take part in conservation programs to help protect wild populations of important animals.

UK zoos engaged in conservation include:

- ▶ Marwell Zoo
- ▶ Bristol Zoo
- ▶ Chester Zoo
- ▶ Paignton Zoo
- ▶ London and Whipsnade Zoos

ANIMAL TOP TRUMPS

The more people who are aware of the amazing but endangered animals of the UAE and UK, the more likely conservation efforts to save them are likely to succeed. A fun card game is a great way to get young people involved.

Your students will make a Top Trumps game using some animals they've researched themselves. For this game, they'll need a picture of the animal, its name, and they'll need to give each animal a score for 4 different qualities. You can use anything measurable for this, but here are some possibilities:

- ▶ whether it's a predator, prey, or both
- ▶ how endangered it is on a scale of 1 to 5
- ▶ how many are left in the wild
- ▶ how many conservation efforts are being made to save it, on a scale of 1 to 5
- ▶ how unique it is to the region, on a scale of 1 to 5
- ▶ its physical characteristics, such as weight, size, or number of legs or wings

There's more information on how to play Top Trumps here: goo.gl/04S0M5

HOW TO MAKE THE CARDS:

- ▶ Get a list of 10 to 20 animals, plants, insects, reptiles and birds that live in the mountain regions of the UAE or the UK (make sure you have determined which school in the twinning programme will cover which country). Not all of them have to be endangered, but at least half should be, or should have been at some point in the past.
- ▶ Find a picture, or ask your students to draw a picture, of each of the animals. You can then either cut out and stick this onto the cards, or scan them and add them to a digital version to print out later.
- ▶ There's a handy template you can use to make your Top Trumps cards here: <https://goo.gl/vHHFzP>
- ▶ You'll also need to discuss what 4 qualities you want to include on the cards, and what number each animal should have. If you have time, you could discuss this with your class and decide all together.
- ▶ Because you'll be sharing your deck with your twin school, you'll need to make two complete sets of cards.
- ▶ Put all the information on the cards, and cut them out.
- ▶ Collate your two decks, and send one to your twin school. (If your cards have been created electronically, you could always send the electronic copy to them to print themselves.
- ▶ Each school should end up with a complete deck of cards covering animals from both the UK and the UAE.
- ▶ Play the game and have fun!

OPTIONAL: RAISE FUNDS FOR A LOCAL CONSERVATION CHARITY.

Fundraising isn't just a great way of helping to conserve the environment, it's also brilliant fun! With your students and in conjunction with your twinned school, discuss ideas for activities that raise money and help promote the twinning programme between the schools.

- ▶ An international bake sale - swap recipes with your twinned school and make homemade cakes, buns and sweets and sell them to teachers, other students and parents to raise money.
- ▶ How about a themed clothing day? Students at the UK school could wear red white, black and green clothes to represent the flag of the UAE, and students in the UAE could wear red white and blue clothes to represent the UK.
- ▶ A craft sale - students can create simple crafts to be sold to other students, teachers, and parents. There are some great craft sale ideas on Pinterest ([goo.gl/t0eJ21](https://www.pinterest.com/t0eJ21)) and there are some great ideas on the Homemade Ideas ([goo.gl/DyD05E](https://www.homemadeideas.com/DyD05E)) website. Try and make at least one set of small, light craft items that could be posted to your partner school for them to sell.
- ▶ A sponsored animal olympics is a great way to get the whole school involved. Set up different races, based on different animals from your twinned school's country; for example, a turtle walk, a camel race, a frog long jump. Students can enter in classes or teams. It's fun to take part in, and also fun to watch!
- ▶ Combine several ideas into a school fete, where you can have a cake sale, animal olympics, crafts and lots of other events going on. Parents and friends can come, and the more people that get involved, the more money you can raise!

TELL US HOW YOU GOT ON!

We would love to see what you created for this activity, and hear about how it went! If you already have an account you can upload a story with images to Roots & Shoots UAE (www.rootsnshoots.ae) or Roots & Shoots UK (www.rootsnshoots.org.uk). If you don't already have an account then use the form on either of the websites to contact us and we will get you set up.

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