Endangered Species
濒危物种

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In 2011, an agreement was signed between the Royal Zoological Society of Scotland and the China Wildlife Conservation Association.

As part of the 10 year agreement, RZSS agreed to contribute to research and education programmes.

The giant panda research programme is in three parts:
- the two pandas at Edinburgh Zoo
- conservation and research work in China
- research work with partners

The giant panda education programme is called ‘Beyond the Panda’ and has a number of workshops for schools and youth groups.
The following pages show examples of RZSS educational resources, interpretation panels and a press release.

We would like to produce all these in Mandarin. Are you able to translate?

1. Giant panda interpretation panels at enclosure—information for visitors

3. Lifecycle of the giant panda—
   educational game showing stages of the life of a giant panda

3. Beyond the Panda press release (advanced level)—information for media about the Beyond the Panda programme (Example provided - shorten, adjust, change details to suit.)
Giant pandas (Ailuropoda melanoleuca) are an endangered species found only in isolated highland forests of south-west and central China.

The Chinese for giant panda is da xiong mao. This literally means ‘giant bear cat’.
Giant pandas are a type of bear that feed almost exclusively upon bamboo. They eat around 30kg of bamboo every day. They are able to digest less than a third of this, so they go to the toilet a lot.
Text on lifecycle resources

1. Length 15cm  
   Average weight 120g  
   1/1000th of the weight of mum

2. Black and white patterns appear

3. Begins to look like a giant panda

4. Playing and learning

5. Time to leave mum

6. Adult  
   (Advanced level) ( Females usually breed from about 5 years old and males from about 7 years. If successful the fertilised egg divides into a ball of cells called a ‘blastocyst’. This ball of cells stops growing and floats around the uterus (womb) until it is the right time to implant in the uterine wall. This is called delayed implantation. Therefore panda pregnancies can range from 82-225 days (approx. 3-8 months).  
   (Translation of biological terms provided in glossary pages 32 & 33.)
Beyond the Panda visits Skye

The Royal Zoological Society of Scotland (RZSS), which owns and manages RZSS Edinburgh Zoo, will bring giant panda outreach to Portree Primary School, on the Isle of Skye, on Tuesday 10 May, with the RZSS China Mobile Library.

This exciting education programme travels to schools throughout Scotland, providing ‘panda boxes’ on loan as part of the ‘Beyond the Panda’ educational programme.

The boxes are filled with games, jigsaws and other fun activities which stimulate learning and classroom discussions. The contents enable students to investigate, study and explore a variety of topics within the overall context of giant pandas and China.

Sandie Robb, RZSS Senior Education Officer, said: “The China Mobile Library is a fantastic and truly unique learning experience. RZSS is very grateful to Confucius Institute for Scotland, for their funding of our expanded ‘Beyond the Panda’ programme and to Arnold Clark for supplying us with the ‘Beyond the Panda’ vehicle which is helping us to deliver this educational programme to school children across Scotland.”

...ends...
Worksheets
Imagine a student from China has sent you this email. Read the email and try to answer the questions.

你好，我叫王京。我正在学习大熊猫。它们住在四川。大熊猫是哺乳动物。这种黑白相间的熊喜欢吃竹子。大熊猫是濒危物种。你在学习什么动物？
王京

1. Who has sent the email?

________________________

2. According to the email, where do giant pandas live?

____________________________

3. Which of the following means ‘endangered species’

   A. 濒危物种 bīnwēiwùzhǒng

   B. 哺乳动物 bǔrǔdòngwù

4. What question does he ask at the end of the email?

__________________________________________________________________________
__________________________________________________________________________
Write a reply to Wáng Jīng in Mandarin. In your reply talk about one of the threats facing the animal you have chosen.

Helpful vocabulary:

- Over-hunting: 濫捕 lànbǔ
- Habitat loss: 生境丧失 shēngjìngsàngshī
- Pollution: 污染 wūrǎn
- Climate change: 气候变化 qìhòubiànhuà
Here are some facts about the giant panda. Translate into English.

大熊猫是黑白的。
Dàxióngmāo shì hēibái de.

它们住在竹林里。
Tāmen zhù zài zhúlín lǐ.

它们爱吃竹叶。
Tāmen ài chī zhú yè.

大熊猫是哺乳动物。
Dàxióngmāo shì bǔrǔ dòngwù.

大熊猫有一个伪拇指。
Dàxióngmāo yǒu yīgè wěimǔzhǐ.

大熊猫有犬齿、门齿和臼齿。
Dàxióng mào yǒu quānchǐ, ménchǐ hé jiùchǐ.

大熊猫是濒危物种。主要威胁是生境丧失。
Dàxióngmāo shì bīnwēiwūzhǒng. Zhǔyào wēixié shì shēngjingsàngshī.
Glossary
Amur Tiger

Amur Tiger - the largest of the tiger species. The wild population is estimated less than 400 and mainly found in Russia. There is a small population in the northeast of China. The Chinese name literally means ‘northeast tiger’.

dōng běi hǔ

东北虎

bharal sheep

bharal sheep - a Himalayan wild sheep with a bluish coat and backward curving horns. Although the species, *Pseudois nayaur*, is found across the Tibetan plateau, the Sichuan bharal, *Pseudois schaeferi*, is only found in a narrow area along the Jingshajiang Valley. The Chinese name literally means ‘cliff sheep’.

yán yáng

岩羊
giant panda

Giant panda – a member of the bear family with characteristic black and white markings and native to China. Historic distribution throughout southeast China but now only found in six distinct populations in south Gansu, Shaanxi and Sichuan. The Chinese name literally means ‘big bear cat’.

dà xióng māo
大熊猫

Steller’s sea eagle

Steller’s sea eagle – a black eagle with massive yellow bill. They mainly breed in eastern Russia but in winter a small number can be seen in northeast China. The Chinese name literally means ‘tiger head sea eagle’.

hǔ tóu hǎi diāo
虎头海雕
vertebrate

vertebrate – an animal with a backbone. The Chinese word literally means ‘vertebrate animal’.

脊椎动物

jǐ zhuī dòng wù

invertebrate

invertebrate – an animal without a backbone. The Chinese word literally means ‘no vertebrate animal’. [无 – no, none, not to have]

无脊椎动物

wú jǐ zhuī dòng wù
mammal [class]
mammal – the group of vertebrate animals with body covering of hair or fur and females which have mammary glands to feed their young. The Chinese word literally means ‘breast feeding class’.

Note – to say, an animal is a mammal, use 哺乳动物  bǔrǔdòngwù

bird [class]
bird – the group of vertebrate animals with a body covering of feathers and females which lay eggs. The Chinese word literally means ‘bird class’.

哺乳类

鸟类
reptile [class]

reptile – the group of vertebrate animals with a body covering of dry scales and females that typically lay soft shelled eggs. The class includes snakes, lizards, crocodiles, turtles and tortoises. The Chinese word literally means ‘crawling class’.

Note – to say, an animal is a reptile, use 爬行动物 páxingdòngwù

爬行动物

爬行类

amphibian [class]

amphibian – the group of vertebrate animals with a body covering of just plain skin and typically have gills at a larval stage then lungs when adult. The class includes frogs, toads, newts, salamanders and caecilians. The Chinese word literally means ‘dual (two) living class’.

两栖类

liǎng qī lèi
fish [class]

fish – the group of vertebrate animals with a body covering of wet scales. The class includes sharks and rays. The Chinese word literally means ‘fish class’.

yú lèi
鱼类
Skulls and Teeth

skull

skull – the skeleton of an animal’s head. The Chinese word literally means ‘head bone’.

tóu  gǔ

头骨

Tooth

tooth – a hard, enamel coated structure in the jaws of most vertebrates.

chǐ

齿

For human tooth use

yáchǐ  牙齿
incisor tooth

incisor tooth — a narrow edged tooth at the front of the mouth, adapted for biting. The Chinese word literally means ‘opening tooth’.

门齿

For human incisor use

qiēyá 切牙 [cutting tooth]

canine tooth

canine tooth — a pointed tooth between the incisors and premolars, adapted for killing. The Chinese word literally means ‘dog tooth’.

犬齿

For human canine use

jiānyá 尖牙 [sharp, pointed tooth]
pre-molar tooth

pre-molar tooth – a tooth between the canine and the molar teeth. The Chinese word literally means ‘front molar tooth’.

qián jiù chǐ

前臼齿

molar tooth

molar tooth – a chewing or slicing tooth at the back of the mouth. Carnivore’s usually have sharp, slicing back teeth. Herbivores have flat, chewing back teeth. The Chinese word literally means ‘mortar tooth’.

jiù chí

臼齿

For human molar use

móyá 磨牙 [grinding tooth]
chewing molars

chewing molars – back teeth that are usually flat and able to chew or grind food. The Chinese word literally means ‘chewing tooth’.

jǔ jué chǐ
咀嚼齿

slicing molars

slicing molars – back teeth that are usually sharp and slice past each other to cut or slice food. The Chinese word literally means ‘split or crack open tooth’.

liè chǐ
裂齿
no teeth

To say ‘no teeth’ use 没有 méi yǒu - not have.

méi yǒu yá chǐ

没有牙齿
wildlife conservation

wildlife conservation – protecting plants and animals. The Chinese word literally means ‘wild animal protection’.

野生动物保护

endangered species

endangered species – a species of animal or plant that is seriously at risk of extinction. The Chinese word literally means ‘near danger species’.

濒危物种
threat

threat – something likely to cause damage or danger. The Chinese word literally means ‘to threaten’.

wēi xié

威胁

climate change

climate change – a change in the world’s climate. The Chinese word literally means ‘climate change’.

qì hòu biàn huà

气候变化
habitat loss

habitat loss – the process in which a natural habitat has been displaced or destroyed. The Chinese word literally means ‘life boundary loss’.

生境丧失

over-hunting

over-hunting – a hunting to excess. The Chinese word literally means ‘excessive capture’.

滥捕
pollution

pollution – the introduction into the environment of a substance which has harmful or poisonous effects. The Chinese word literally means ‘dirty contamination’.

wū rǎn

污染
Habitats

habitat

habitat – the natural home of an animal or plant. For habitat loss (page 27) use 生境 shēngjìng but when using the word habitat on its own use 栖息地 qīxīdì. The Chinese name literally means ‘life border’ or ‘dwelling ground’ respectively.

mixed forest

mixed forest – a forest with two or more types of trees, usually a mix of deciduous and coniferous. The Chinese word literally means ‘mixed forest’.
mountain range

mountain range – a large natural elevation of the earth’s surface, a series of large steep hills. The Chinese word literally means ‘mountain arteries and veins’.

shān  mài

山脉

mountain forest

mountain forest – forests with an elevation of 2500m above sea level or higher or an elevation of 300-2500m and a slope with sharp changes in elevation within a short distance. The Chinese word literally means ‘mountain forest’.

shān  lín

山林
rainforest

rainforest – a dense forest rich in biodiversity, typically found in tropical areas with heavy rainfall. The Chinese word literally means ‘rain forest’.

yǔ lín

雨林

ocean

ocean – a large expanse of sea. The Chinese word literally means ‘ocean’.

Note 海 sea; 洋 ocean or vast.

hǎi yáng

海洋
fertilised egg

fertilised egg – an animal organism in the early stages of growth. Fertilisation is the moment when a sperm and egg join together. The Chinese word literally means fertilised ovum.

shòu jīng luǎn
受精卵

blastocyst

blastocyst – a structure formed in the early development of mammals containing a cluster of cells from which the embryo will form. The Chinese word literally means embryo sack.

[Embryo 胚胎 pēitāi – an unborn offspring in the process of development.]
uterus or womb

uterus – the organ in female mammals in which babies develop before birth. The Chinese word literally means child palace.

延迟着床

delayed implantation

delayed implantation – a delay in the development of the embryo. The blastocyst does not immediately implant in the uterus. The strategy is used by some mammals to delay the birth of the offspring for more favourable conditions. The Chinese phrase literally means to delay implantation. Implantation is made up from the characters to wear/contact and bed.
Animal Fact Files
Amur tiger *Panthera tigris*

**Distribution**  north east China

**Habitat**  mixed forests

**Diet**  wild boar, deer and other small to medium sized animals

**Breeding**
- gestation  90-105 days
- litter size  1-6
- lifespan  15-20 years

**Size**
- length  140-280cm
- tail length  91-110cm
- weight  90-306kg

**IUCN Red List Status**  Endangered

**Main threat**  over-hunting for Traditional Chinese Medicines

**Additional Information**

China is home to three species of tiger although one is now thought to be extinct – the South China tiger. The other two are the Indochinese and the Amur. The Amur is the largest tiger in the world. There are estimated less than 400 left in the wild.

Traditional Chinese Medicines have a very long and important history in China. Now artificial alternatives are used but unfortunately the use of endangered animals and plants still continues illegally.
**Bharal sheep** *Pseudois schaeferi*  
岩羊

**Distribution**  
Jingshajiang Valley, Sichuan

**Habitat**  
very steep rocky slopes between 2,700 and 3,200m

**Diet**  
grasses, low shrubs, mosses and lichens

**Breeding**
- gestation: 160 days  
- litter size: 1 (rarely 2)  
- lifespan: 12-15 years

**Size**
- length: 109-160cm  
- tail length: 7-12cm  
- height: 50-80cm  
- weight: male 28-65kg, female 17-40kg

**IUCN Red List Status**  
Endangered

**Main threat**  
climate change

**Additional Information**

The species of bharal, *Pseudois nayaur* is found on the Tibetan plateau extending into west Sichuan, south Gansu and northern Yunnan. *Pseudois nayaur* is listed as Least Concern. However the Sichuan bharal, *Pseudois schaeferi* is only found in a narrow area along the Jingshajiang Valley. It is also under threat from over-hunting.

The Sichuan bharal is often known in Chinese as the 矮岩羊 ǎi yánýáng meaning short cliff sheep as this species is smaller than the *Pseudois nayaur*. 
Giant panda *Ailuropoda melanoleuca*

**Distribution**
Sichuan, Gansu and Shaanxi

**Habitat**
mountain bamboo forests

**Diet**
99% of diet is bamboo but they will eat fruits and small animals

**Breeding**
- **gestation**: 82-225 days*
- **litter size**: 1-2 (but when 2 cubs are born, the mother will only rear the stronger cub)
- **lifespan**: 25-30 years

**Size**
- length: 120-150cm
- tail length: 12-15cm
- height: 80-90cm
- weight: 85-125kg

**IUCN Red List Status**
Endangered

**Main threat**
habitat loss

*there can be delayed implantation – the embryo does not immediately implant in the uterus.

**Additional Information**

There is a sub-species of the giant panda found in Shaanxi which is brown and white. Research has shown that the brown and white colouring is probably due to a genetic mutation, which means a change in the genes that has caused a difference from the norm. However it is also important to note that there is quite a lot of brown fur on a black and white panda.
Steller’s sea eagle *Haliaeetus pelagicus*

虎头海雕

**Distribution**  
north east China, border with Russia

**Habitat**  
coastal cliffs, river and lakeside forests

**Diet**  
fish, sea birds and small to medium sized animals

**Breeding**
- incubation 39-45 days
- eggs 1-3
- lifespan 20 years

**Size**
- length 85-94cm (wingspan 1.9-2.5m)
- weight male 6kg  female 9kg

**IUCN Red List Status**  
Vulnerable

**Main threat**  
pollution

**Additional Information**

The Steller’s sea eagle used to be seen in winter in China but now rare to find due to the pollution of fish in the Bóhaï Sea 海. The Steller’s sea eagle is also under threat from coastal development.
Language Challenge
In the Endangered Species board game, the language challenges relate to the Chinese names of the four animals – Steller’s sea eagle, Amur tiger, bharal sheep and the giant panda.

Steller’s sea eagle – 虎头海雕 focuses on 海 meaning sea. The challenge is to find other water related words.

Amur tiger – 东北虎 focuses on 东北 meaning northeast. The challenge is to find other compass directions.

bharal sheep – 岩羊 focuses on the radical 山 meaning mountain. The challenge is to find other words containing this radical.

giant panda – 大熊猫 focuses on 大 meaning big. The challenge is to find other similar adjectives.
Language Challenge – water related words

**sea**
- **da hǎi**
- **大海**

**ocean**
- **hǎi yánɡ**
- **海洋**

**stream**
- **xiǎo xī**
- **小溪**

**river**
- **jiānɡ** or **hé**
- **江** or **河**
Language Challenge – water related words

water

shuǐ

水

drop of water

shuǐ  dī

水滴

raindrop

yǔ  diǎn

雨点
Language Challenge – directions

east

dōng

东

south

nán

南

west

xī

西

north

běi

北
Language Challenge – directions

northeast
dōng běi
东北

southeast
dōng nán
东南

northwest
xī běi
西北

southwest
xī nán
西南
Language Challenge – mountain radical

mountain

shān

山

dǎo

岛

hillock

gāng

岗

peak

fēng

峰
gorge

mist

to go out

years old
Language Challenge – adjectives

big
dà
大

small
xiǎo
小

long
cháng
长

short
duǎn
短
Language Challenge – adjectives

thin

fat

high

low

báo

pàng

gāo

dī
Fact Challenge
In the Endangered Species board game, the fact challenges relate to the four animals – Steller’s sea eagle, Amur tiger, bharal sheep and the giant panda.

Steller’s sea eagle – names of bird body parts

Amur tiger – other big cat species

bharal sheep – other sheep related words

giant panda – other bear species
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