

Beyond the  
Panda 熊猫后续



RZSS Confucius Classroom

苏格兰皇家动物协会孔子课堂

China Mobile Library & Packs

中国移动图书馆

Outreach: Endangered Species

拓展：濒危物种

in partnership with



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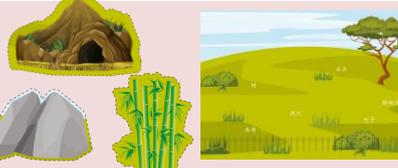


SCEN  
SCOTLAND CHINA EDUCATION NETWORK

**Arnold  
Clark**

**Ideas on how to use the S1/S2 pack:**

The resources are designed to be used as class activities bringing language learning into the following different topics – biology; environmental science; art; history and culture.

Topic 1	China Map activity	
Topic 2	China Animal & Adaptation game	
Topic 3	Giant Panda Art activity	
Topic 4	Giant Panda Biology challenges	
Topic 5	Giant Panda Enclosure activity	
Topic 6	Story of Silk activity	
Topic 7	Chinese Etiquette game	

# China Map activity

## Contents:

- 10 x region cards
- 10 x Chinese name cards
- 1 x China region map

Using the clues on the region cards and the China map, match up the regions to the correct Chinese names.

## Answers:

 <ul style="list-style-type: none"> <li>Chinese name literally means '4 rivers'</li> <li>Home to wild pandas</li> </ul>	<p>Sichuan</p> <p>sì chuān</p> <p>四川</p>	 <ul style="list-style-type: none"> <li>Chinese name literally means 'land west of Shan'</li> <li>Home to wild pandas</li> </ul>	<p>Shaanxi</p> <p>shān xī</p> <p>陕西</p> <p><small>The English name is written with a 'double a' because there is another province with a similar name - Shānxī 山西 literally meaning mountain west.</small></p>
 <ul style="list-style-type: none"> <li>Chinese name literally means 'pleasant respectful'</li> <li>Home to wild pandas</li> </ul>	<p>Gansu</p> <p>gān sù</p> <p>甘肃</p>	 <ul style="list-style-type: none"> <li>Chinese name literally means 'lucky forest'</li> </ul>	<p>Jilin</p> <p>jī lín</p> <p>吉林</p>
 <ul style="list-style-type: none"> <li>Chinese name literally means 'river west'</li> </ul>	<p>Jiangxi</p> <p>jiāng xī</p> <p>江西</p>	 <ul style="list-style-type: none"> <li>Chinese name literally means 'black dragon river'</li> </ul>	<p>Heilongjiang</p> <p>hēi lóng jiāng</p> <p>黑龙江</p>
 <ul style="list-style-type: none"> <li>Chinese name literally means 'river north'</li> </ul>	<p>Hebei</p> <p>hé běi</p> <p>河北</p>	 <ul style="list-style-type: none"> <li>Chinese name literally means 'river south'</li> </ul>	<p>Henan</p> <p>hé nán</p> <p>河南</p>
 <ul style="list-style-type: none"> <li>Chinese name literally means 'lake north'</li> </ul>	<p>Hubei</p> <p>hú běi</p> <p>湖北</p>	 <ul style="list-style-type: none"> <li>Chinese name literally means 'lake south'</li> </ul>	<p>Hunan</p> <p>hú nán</p> <p>湖南</p>

**Extension:** Use the map to work out the literal meaning of the other regions.

## China Animal & Adaptations game

### Contents:

- 6 x habitat shaped boards
- 6 x habitat character cards
- 6 x animal picture cards
- 6 x animal character cards
- 6 x adaptation cards
- 1 x character chart

Using the clues from the character chart:

- Match the habitat character cards to the habitat shaped boards – mountain; desert; mixed forest; rainforest (fern); grasslands and river.
- Match the animal character cards to the animal pictures.
- Match the adaptation card to the correct animal.
- Place the animals with their appropriate cards on the correct habitat shaped boards.

### Answers:

1. mountain 山脉  
Chinese pika 大耳鼠兔

Adaptations: ability to live in high rocky landscapes  
ability to live in cold environments  
excellent sense of smell



2. desert 沙漠

Bactrian camel 双峰驼

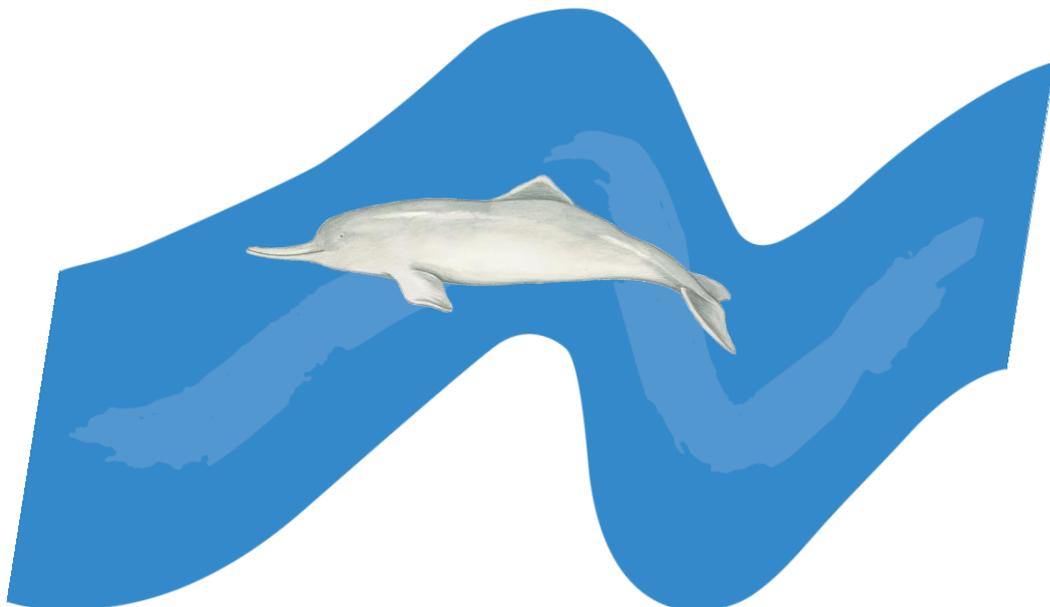
Adaptations: stores fat to live days without food  
ability to live in very hot & cold temperatures



3. river 河流

white river dolphin 白暨豚

Adaptations: uses echo location  
communicates with clicks and whistles



4. rainforest  
pangolin

雨林  
穿山甲

Adaptations: long sticky tongue to eat ants & termites  
long strong front claws for digging  
rolls into a ball for defence



5. mixed forest  
giant panda

混交林  
大熊猫

Adaptations: overgrown wrist bone that acts like a thumb  
excellent sense of smell



6.

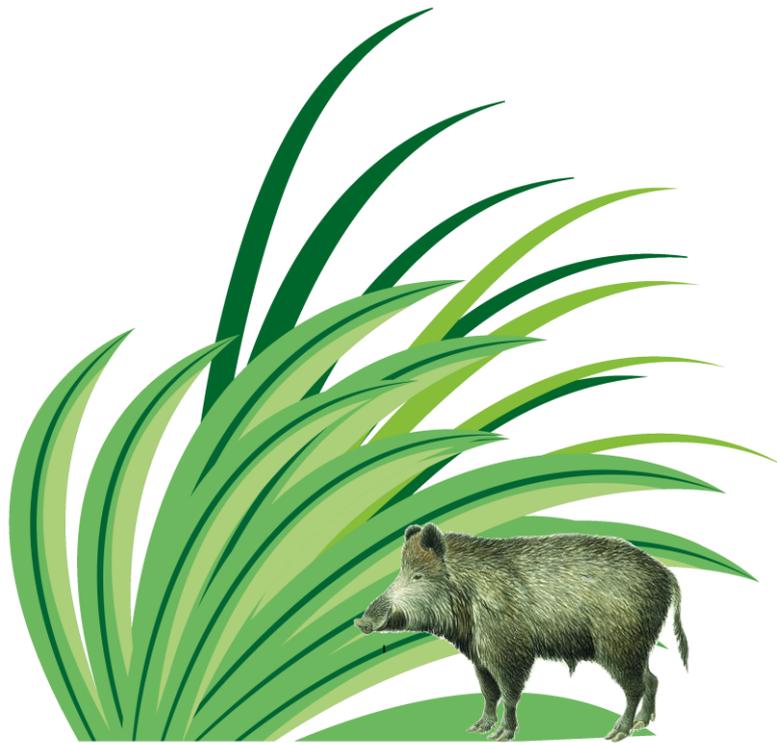
grasslands

草原

wild boar

野猪

Adaptations: can feed on a variety of plants & animals  
excellent sense of smell  
large canine teeth for defence



# Giant Panda Art activity

## Contents:

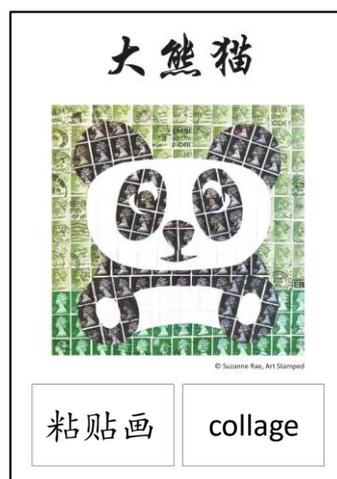
- 1 x instruction card
- 5 x giant panda art cards
- 5 x English word cards
- 5 x Chinese word cards
- 1 x character chart

## Requirements:

paper  
art materials

- Match both the English and Chinese words for the different art styles to each of the five picture cards.
- From the list of features given on the instruction card, decide which can be achieved using each style.
- Draw a giant panda in a style of your choice.

## Answers



Features –

**pen:** fine and sharp lines

**watercolour:** contrast; depth; colour; thick and thin strokes.

**pencil:** fine lines; sharp lines; some depth; shadows; thick and thin strokes.

**brush painting:** contrast; thick and thin strokes.

**collage:** contrast; depth; 3D effects; texture; colour.

# Giant Panda Biology challenges

## Contents:

- 5 x challenge cards
- 6 x cell cards
- 7 x timeline cards
- 2 x development cards
- 1 x giant panda lifecycle diagram

Read through the information on the five cards, then complete the challenges.

## Answers

### 1. Lifecycle

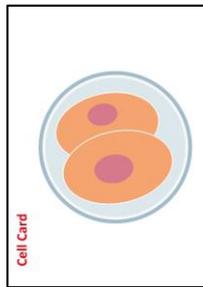
Measure the newborn giant panda on the lifecycle diagram which is to a scale of 1:5. The newborn should measure approximately 3cm. Multiply this by 5 to get 15cm which is the average size of a newborn giant panda.



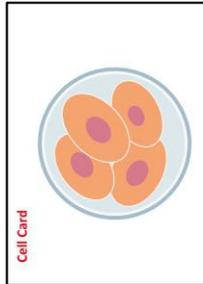
Measuring approx. 3cm on A3 card.  
At 1:5 scale, newborn is 15cm.

2. Having giant panda babies

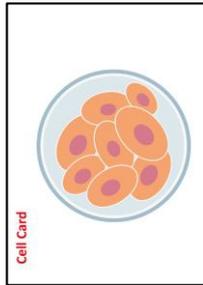
# Human embryo development



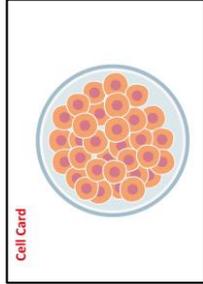
Timeline Card  
Day 1-2  
2 cell stage



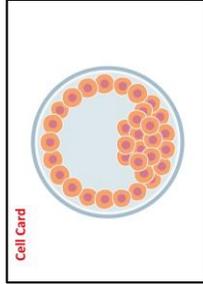
Timeline Card  
Day 2-3  
4 cell stage



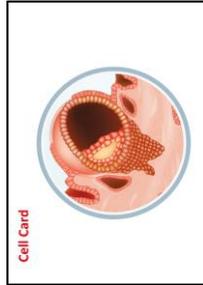
Timeline Card  
Day 3-4  
8 cell stage



Timeline Card  
Day 4-5  
ball of cells

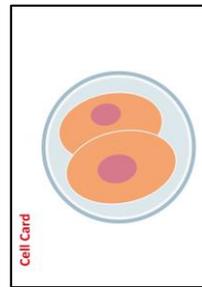


Timeline Card  
Day 5-6  
blastocyst

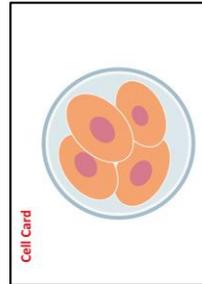


Timeline Card  
Day 6-9  
blastocyst implants

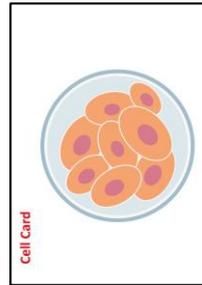
# Giant panda embryo development



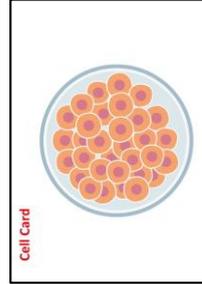
Timeline Card  
Day 1-2  
2 cell stage



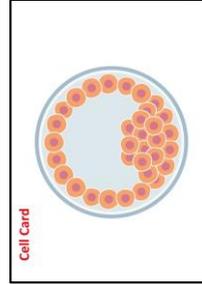
Timeline Card  
Day 2-3  
4 cell stage



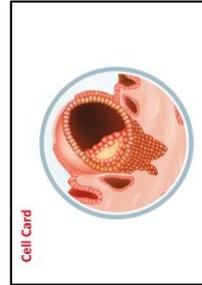
Timeline Card  
Day 3-4  
8 cell stage



Timeline Card  
Day 4-5  
ball of cells



Timeline Card  
Day 5-6  
blastocyst



Timeline Card  
Day 30-90  
blastocyst implants

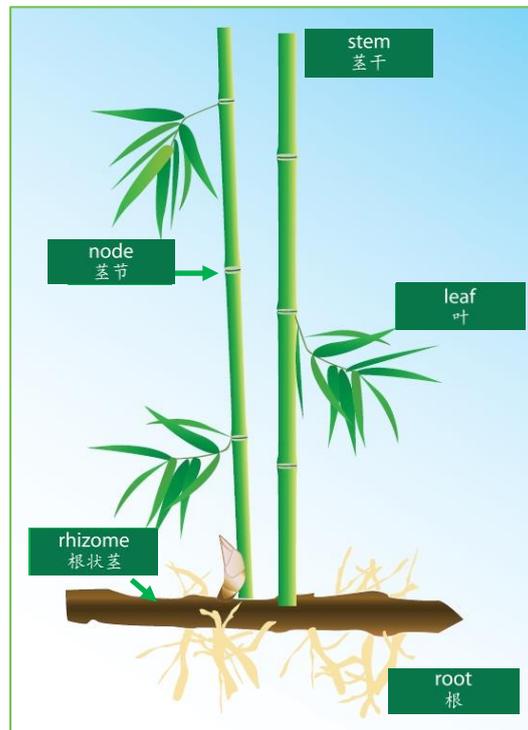
In the giant panda there is usually a 1-3 month delay before implantation.

### 3. Bamboo

The **rhizome** is an underground stem that spreads away from the main plant and sends up shoots.

**Nodes** are short solid sections in between the longer, hollow sections of bamboo stems.

The **leaves** grow from the node.



### 4. Poo

#### Yang Guang and Tian Tian at RZSS Edinburgh Zoo

Urine samples are analysed from Tian Tian to try to establish her fertile period, whether mating or artificial insemination has been successful and when or if the embryo has implanted.

Faecal samples are tested from both giant pandas to be aware of any health issues.

## 5. The panda 'thumb'

The red panda is the only other animal alive today that we know of to have a similar overgrown wrist bone to the giant panda. Red pandas are not related to giant pandas but both have evolved this extra 'digit' to grip bamboo.

This is known as convergent evolution. Convergent evolution is when two totally different species develop similar characteristics or adaptations.

Divergent evolution is when species from the same common ancestor evolve with differences, resulting in the formation of a new species.



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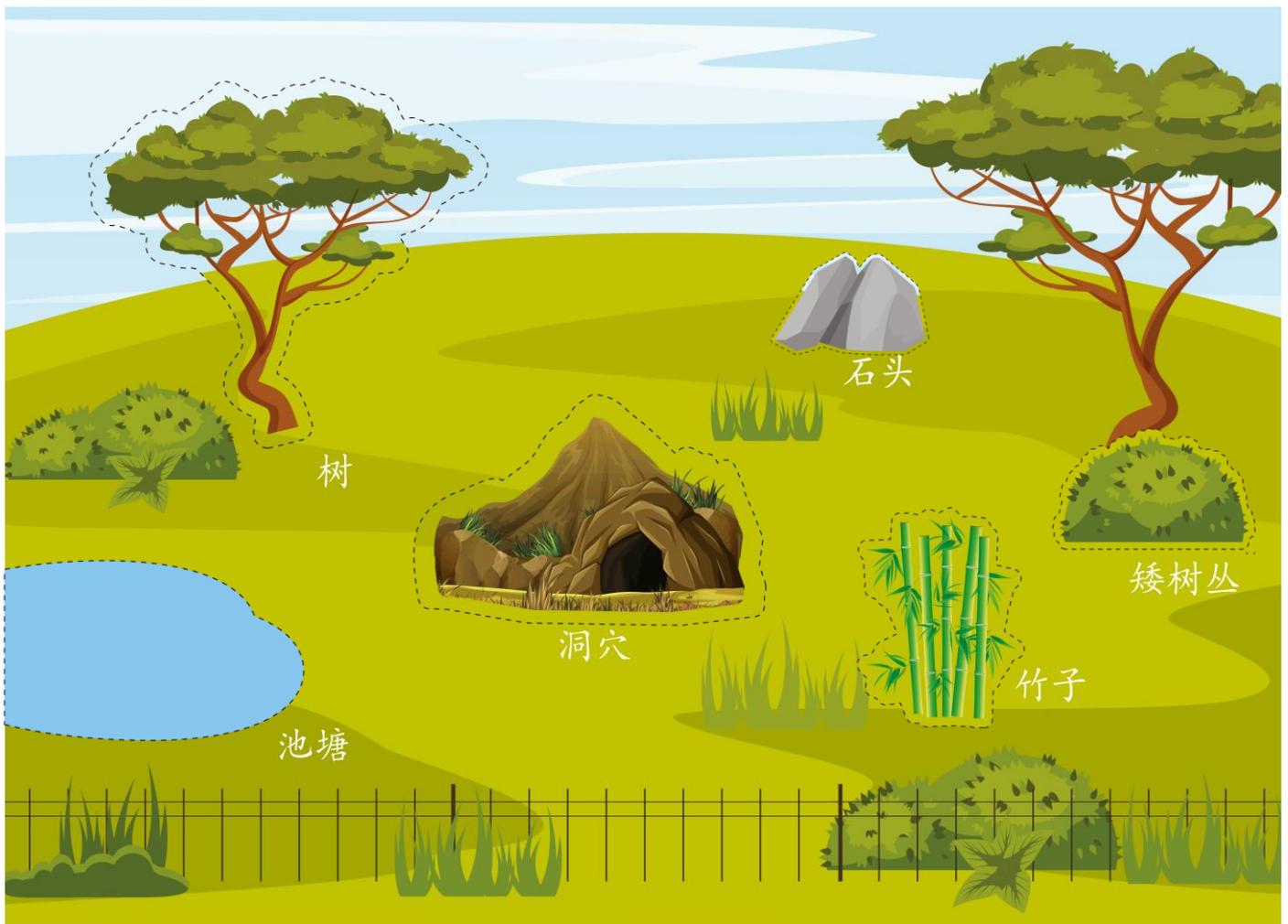
## Giant Panda Enclosure activity

### Contents:

- 1 x panda enclosure background
- 6 a panda enclosure items
- 1 x clue card

This basic background for a giant panda enclosure is provided but six more items are essential for the giant panda. With the help of the clue card, place each item in its correct place.

### Answers



### Radicals

A Chinese radical is part of a Chinese character and is how the character would be found in a traditional Chinese dictionary. The radical usually relates to the meaning of the character. Some radicals are useful to know and recognise.

**Extension:** Use a Chinese dictionary to look up the characters.

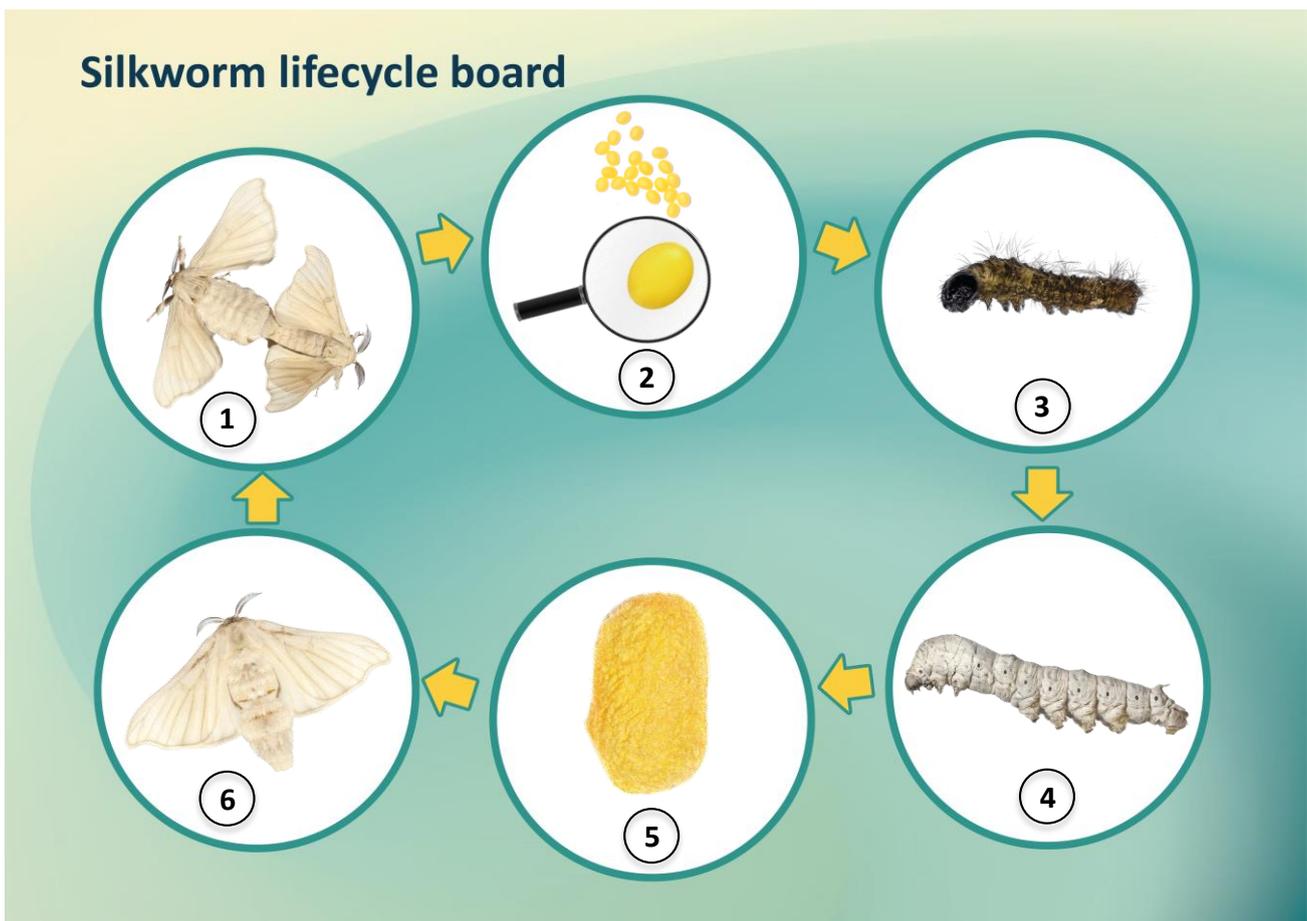
## Story of Silk activity

### Contents:

- 1 x silkworm lifecycle board
- 6 x silkworm discs
- 3 x silk information cards

Place the silkworm lifecycle discs onto the silkworm lifecycle board in the correct order. Read the information cards.

### Answers



1. adults mating
2. eggs
3. newly hatched
4. caterpillar
5. cocoon
6. adult

**Extension:** Find out more about the production of silk and the history of the silk route. Find out about the new silk road project.

# Chinese Etiquette game

## Contents:

- 18 question & answer cards:
- 3 x 6 different topics –
- business
- food
- gestures
- expressions
- gifts
- numbers

The cards should be placed picture side up. They are numbered according to their topic and one suggestion is to roll a dice to determine which topic to pick. Alternatively they can be answered randomly. Discuss the question in a group before turning over to find out the answer.

Answers are given on cards with an explanation.

