

清宮科技展

# 西洋奇器

Western Scientific Instruments of the Qing Court

26.6 – 23.9.2015

Young Children Activity Sheet  
(Suitable for K1 – P3 Students)

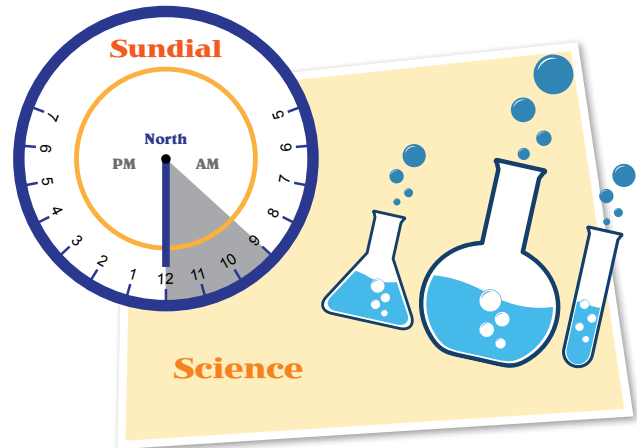
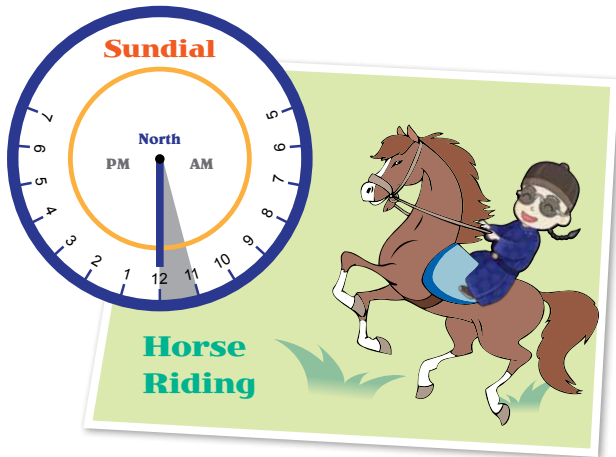
Acknowledgement:

This Activity Sheet is written by Ms Kwok Sau Chun and Mr Ying Yu Hing

# Astronomical Instrument

## (I) Puyi's Study Timetable

Try to name the subject of the three lessons by observing the sundial in the three diagrams below.



Lesson

Subject

Lesson 1 ( 9 am )

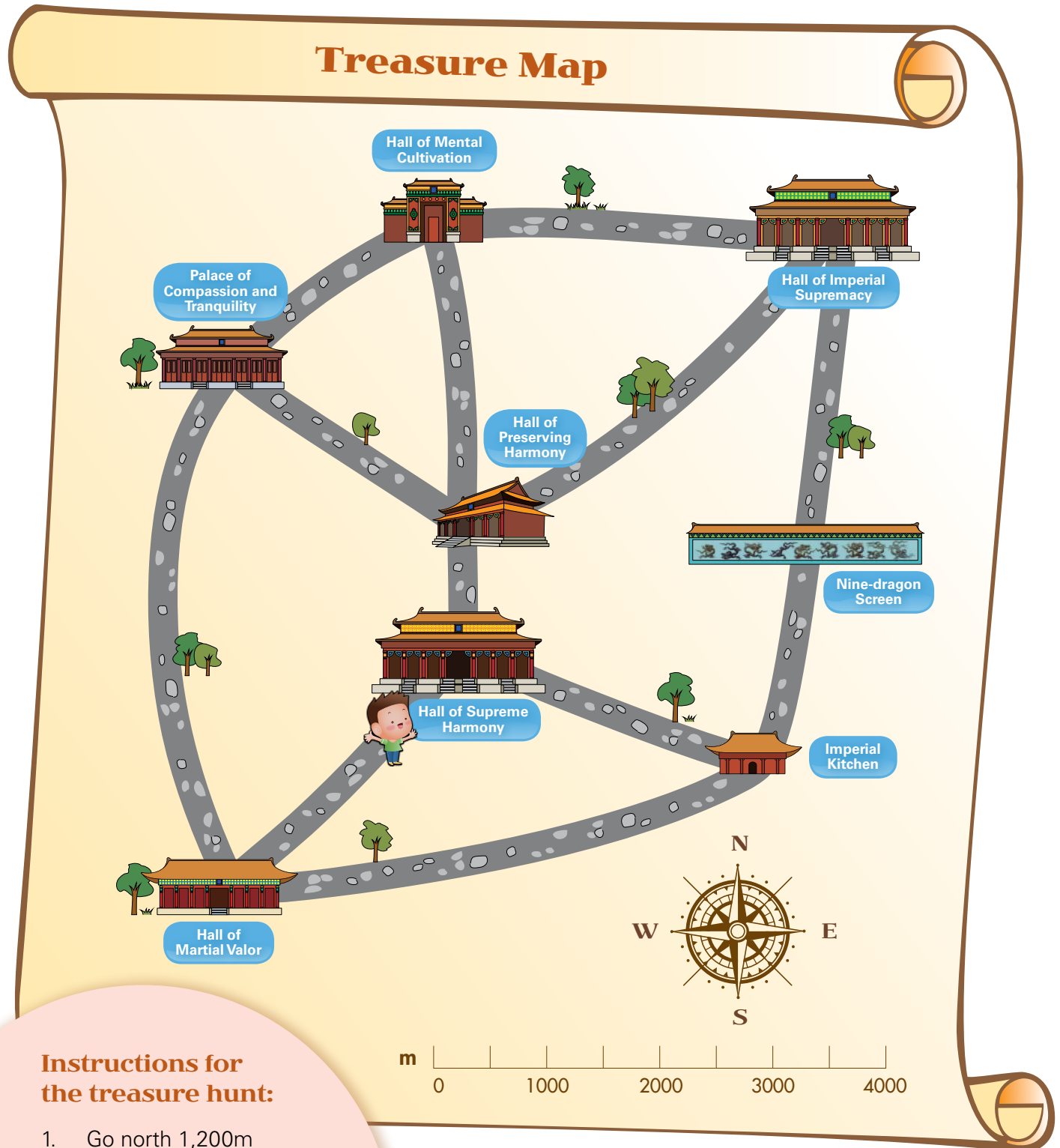
Lesson 2 ( 10 am )

Lesson 3 ( 11 am )

Lunch

## (II) Treasure Map of the Imperial Palace

When touring the Imperial Palace, you discovered a treasure map in the Hall of Supreme Harmony. Follow the instructions on the map to find out the location of the hidden treasure.



### Instructions for the treasure hunt:

1. Go north 1,200m
2. Go northwest 2,500m
3. Go northeast 1,300m
4. Go east 3,700m

The hidden treasure is located at the



## Mathematics

### (III) Number of Family Members

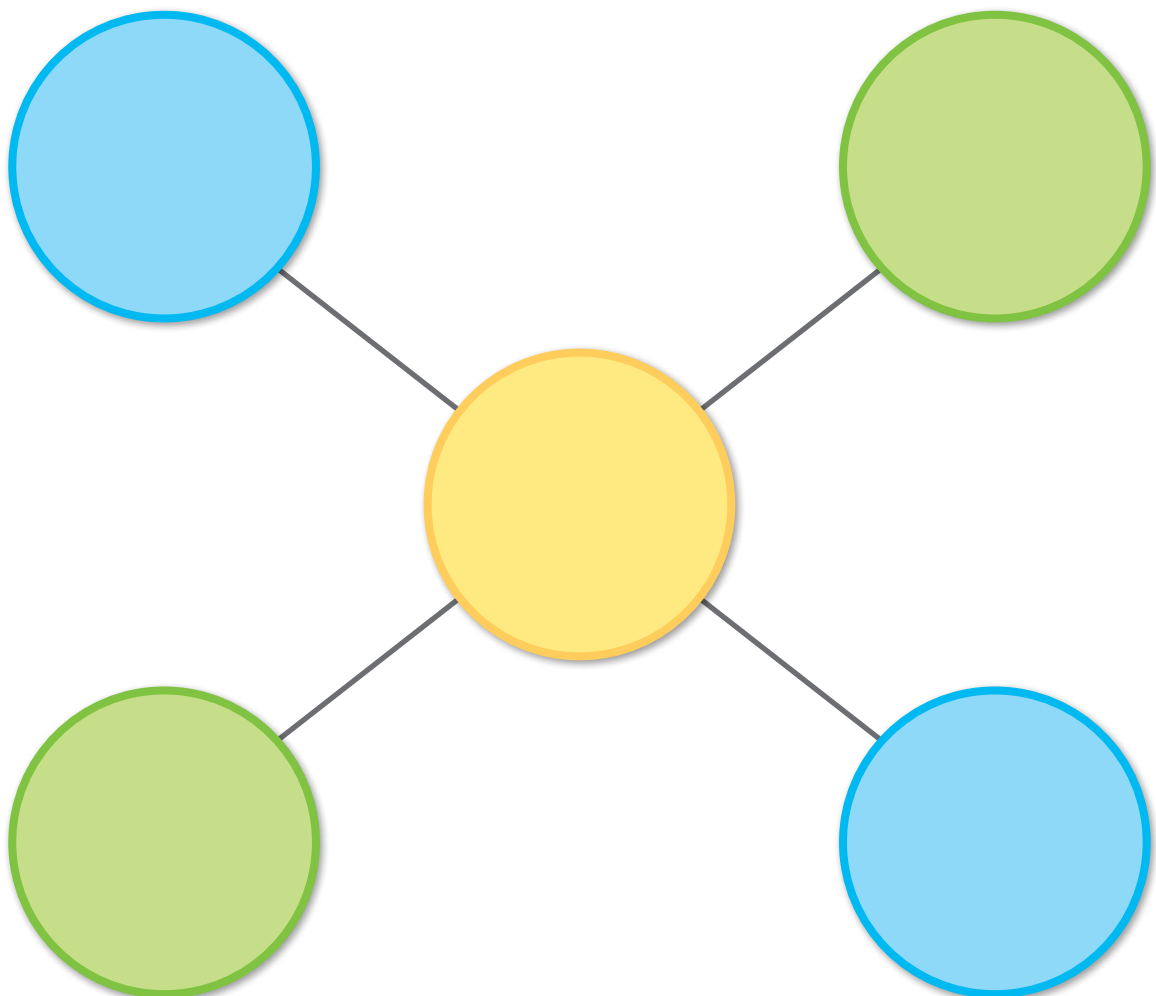
If you have father, mother and a younger sister in your family, how many members altogether are there in your family?

There are \_\_\_\_\_ members in my family

### (IV) Human Brain as Computer

Calculator can help us to work out difficult arithmetic problems. In fact, the human brain is also a very complex calculator.

Try to put numbers 1 to 5 into the circles in the diagram below so that the sum of the numbers in one diagonal is equal to the sum of the numbers in another diagonal. Each number can only be used once. There are more than one combination of numbers giving the correct answer; challenge yourself to see how many combinations you can find.

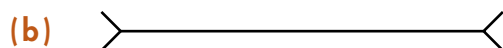
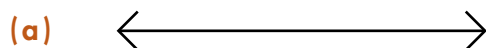


# Measurement

## (V) Which Line is Longer?

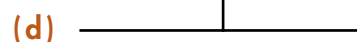
Our eyes can see things, but if we need to know the exact dimension, we have to use a ruler to measure. Two sets of lines are given below and there are two lines in each set. Can you tell which line is longer in each set? Please make a guess by the naked eye and then measure with a ruler to find out if your answers are correct.

Set 1



Set 2

(c)



Which line is longer? (Put a ✓ at the appropriate boxes)

Guess with the naked eye



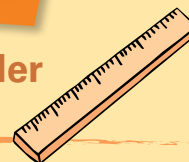
Set 1

- ☐ (a) is longer
- ☐ (b) is longer
- ☐ Same length

Set 2

- ☐ (c) is longer
- ☐ (d) is longer
- ☐ Same length

Measure by a ruler



Set 1

- ☐ (a) is longer
- ☐ (b) is longer
- ☐ Same length

Set 2

- ☐ (c) is longer
- ☐ (d) is longer
- ☐ Same length

## (VI) Tidy up Toolboxes

Try to tidy up the exhibits below by putting them into the right toolbox.  
(Fill in the alphabets only.)

(a) Small steelyard



(b) Iron frame bow-shaped ruler



(c) Copper ying zao chi of the Ministry of Revenue



(d) Balance



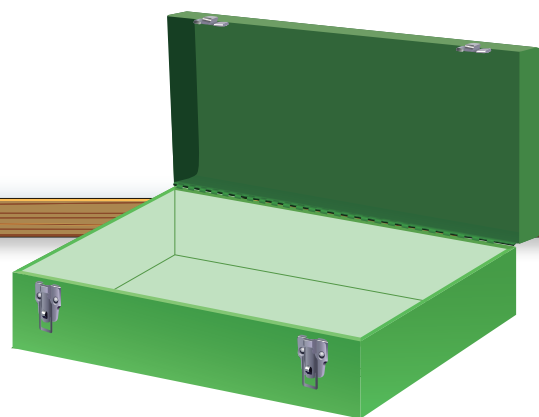
(e) Weight



(f) Copper spring balance



Tools for  
measuring length



Tools for  
measuring weight

## (VII) Using the Scale Balance Wisely

You are helping your mother to make a cake in the kitchen. However, the scale balance in the kitchen has only two balancing weights: (A) is 50g and (B) is 30g. The ingredients for making the cake are:

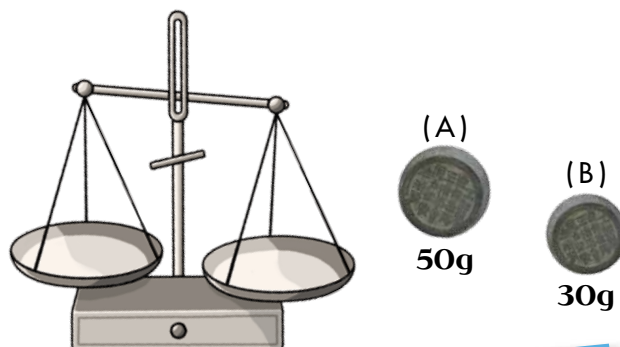
**2 Eggs**

**20g Sugar**

**100g Low-gluten flour**

**80g Butter**

**1 carton Fresh milk**



**How can you use the scale balance to measure the exact amount of sugar, low-gluten flour and butter?**  
(You can make unlimited number of weighing.)

**20g sugar**



---

---

---

---

**100g low-gluten flour**



---

---

---

---

**80g butter**



---

---

---

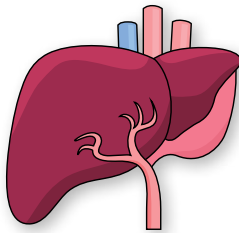
---

## Medicine

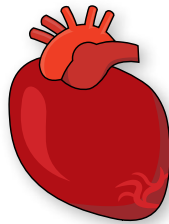
### (VIII) Organs in the Human Body

Fill in the alphabet of the organs into the correct position of the human body.

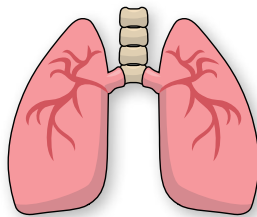
(A) Liver



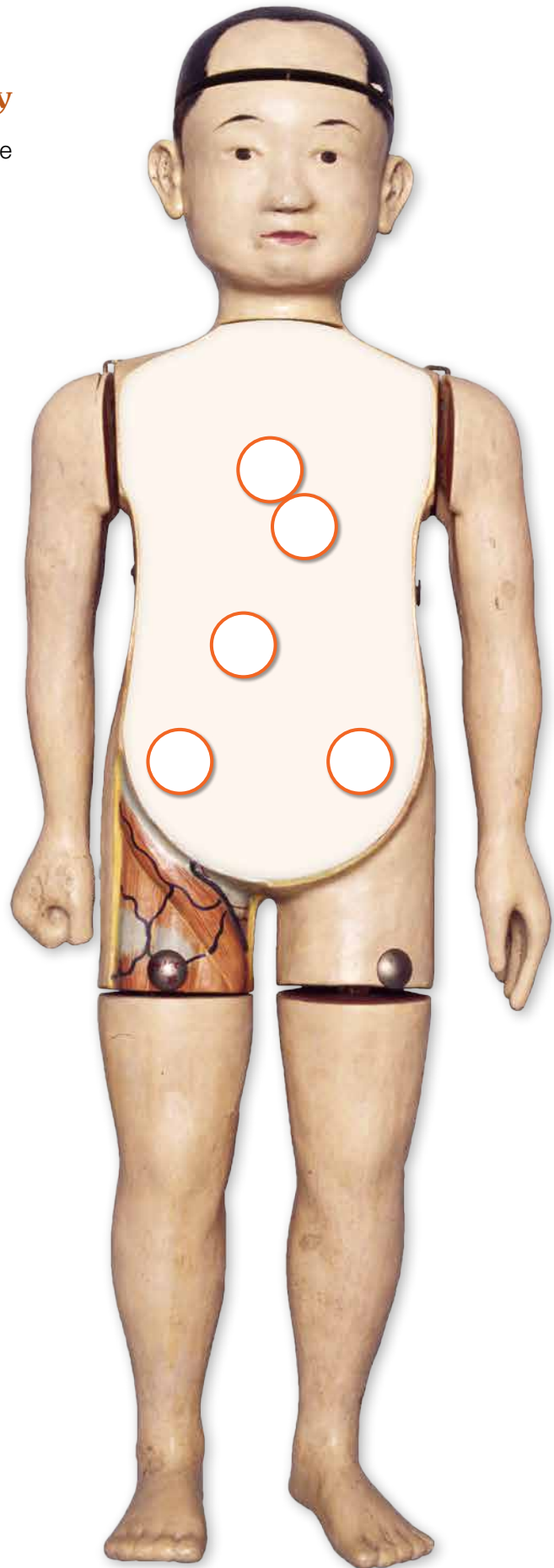
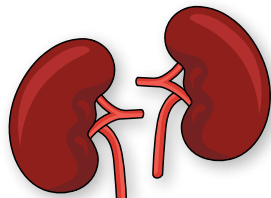
(B) Heart



(C) Lung



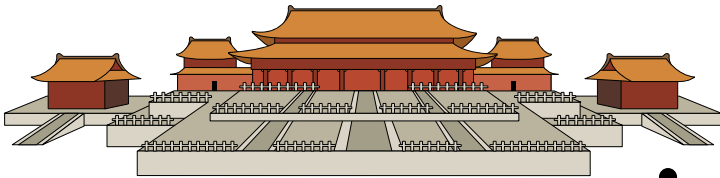
(D) Kidney





# Weapons

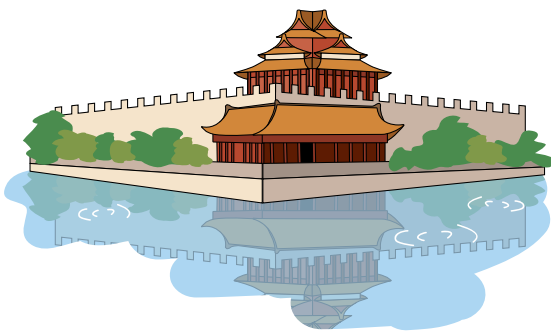
## (IX) Matching up the Weapons



Intelligence indicates that over a thousand bandits are attempting to enter the Forbidden City from the east to pillage the national treasures. A team of guards are stationed at the East Gate to defend. The most suitable weapon for them is...



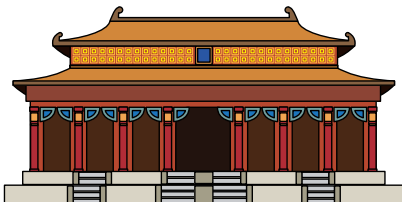
The rifle



Three thieves are rowing a boat to cross the moat while guards are in the Corner Towers. The most suitable weapon for the guards is...



The pistol



An assassin has broken into the Forbidden City and hidden in the Hall of Supreme Harmony. The guards have surrounded the Hall and the most suitable weapon for them is...

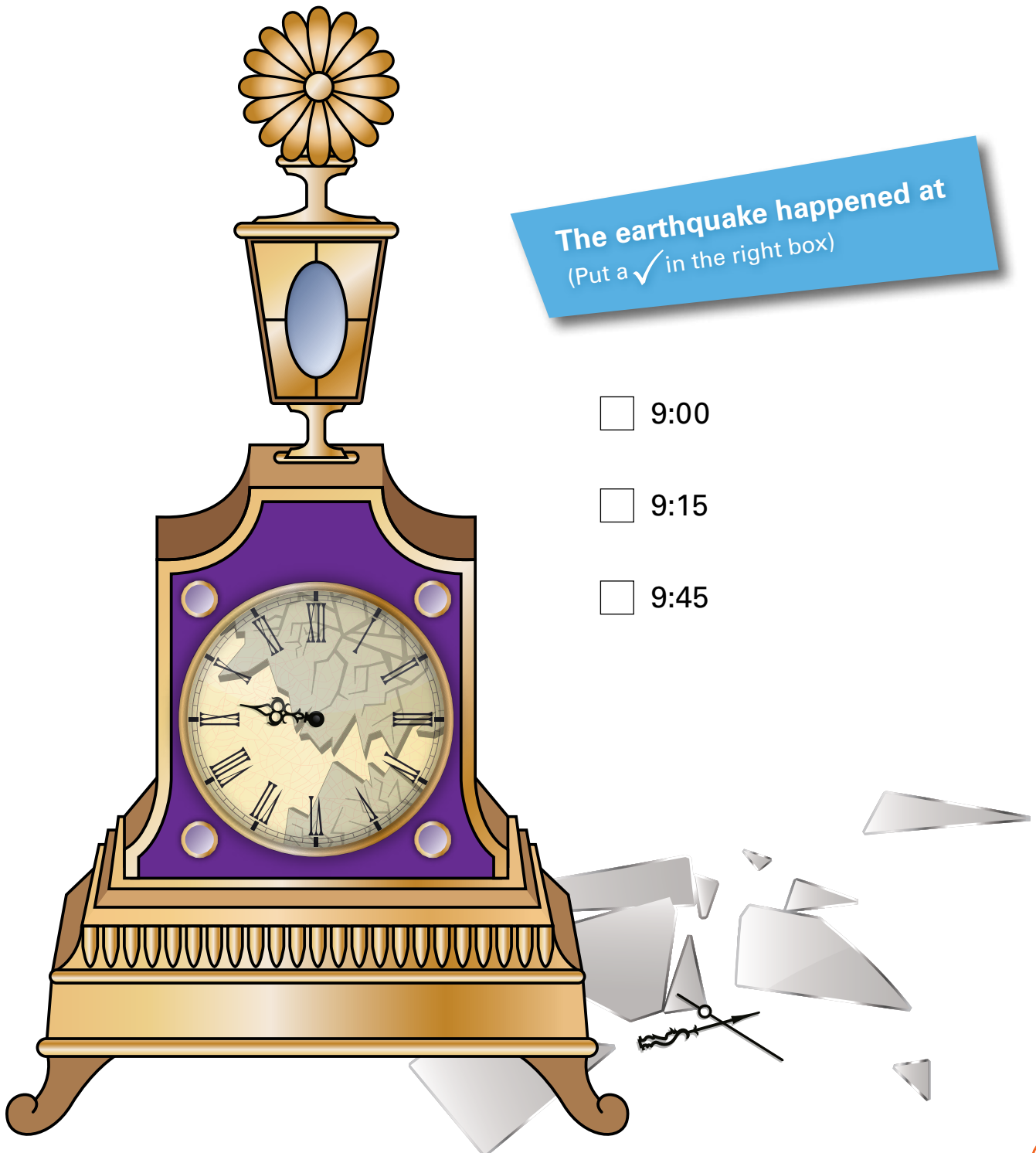


The cannon

## Mechanics (Clocks and Watches)

### (X) Time has Stopped

One night, a mild earthquake happened in Beijing. The stained glass dial face of the gilt-bronze floral clock was shattered and the minute hand dropped onto the floor. Please observe the position of the hour hand and deduce the approximate time when the earthquake took place.



The earthquake happened at  
(Put a ✓ in the right box)

☐ 9:00

☐ 9:15

☐ 9:45

## Cycling in the Countryside

(XI) Puyi is going to go cycling with his brother, Pujie in the countryside after lunch. This is a sunny day and the temperature is 28 - 30°C. The palace guards have prepared a list of items for the tour. Please choose for Puyi the items that fit for this tour and explain.

Small binoculars



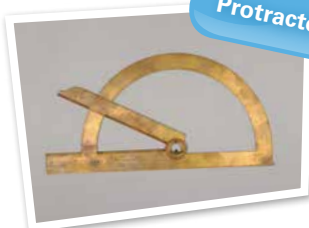
Western lighter



Microscope



Protractor



Magnifying glass



Tea quartz glasses



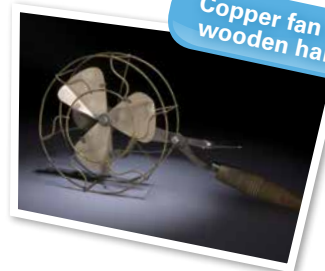
Horn-rimmed glasses



Copper compass



Copper fan with wooden handle



### List of Items

I choose.....

Reasons / usage

