

amorphous metal

聚合物

ferrofluid

Si

Aerogel

nitinol

氣凝膠

tempered glass

沙沙

Polymers

Fe₃O₄ + 8NH₄Cl

99.8% air + 0.2% silica

非晶態金屬

神奇物質

strange MATTER

材料科學展

12.12.2014 ▶ 15.4.2015

幼兒學習活動習作 Young Children Activity Sheets

(適合幼稚園至小三學生)
(Suitable for K1 - P3 students)

在開始參觀「**神奇物質 – 材料科學展**」前，我們想知道你對物質有多少認識。希望你參觀完這個展覽後能對物質有更多的了解。

Before you visit the **Strange Matter** exhibition, we would like to find out how much you know about matter. And see if you could understand more after visiting the exhibition.

材料樂園 Material Playground



這裏是一個遊樂場，但是很多東西的顏色都消失了。
你能根據下面代表不同原材料的顏色為它們重新添上色彩嗎？

The below picture shows you a playground where the colour of many objects has vanished. Can you paint the objects based on the colours of the raw materials specified below to turn the playground into a colourful and enchanting one?



金屬：灰色
Metal: Gray



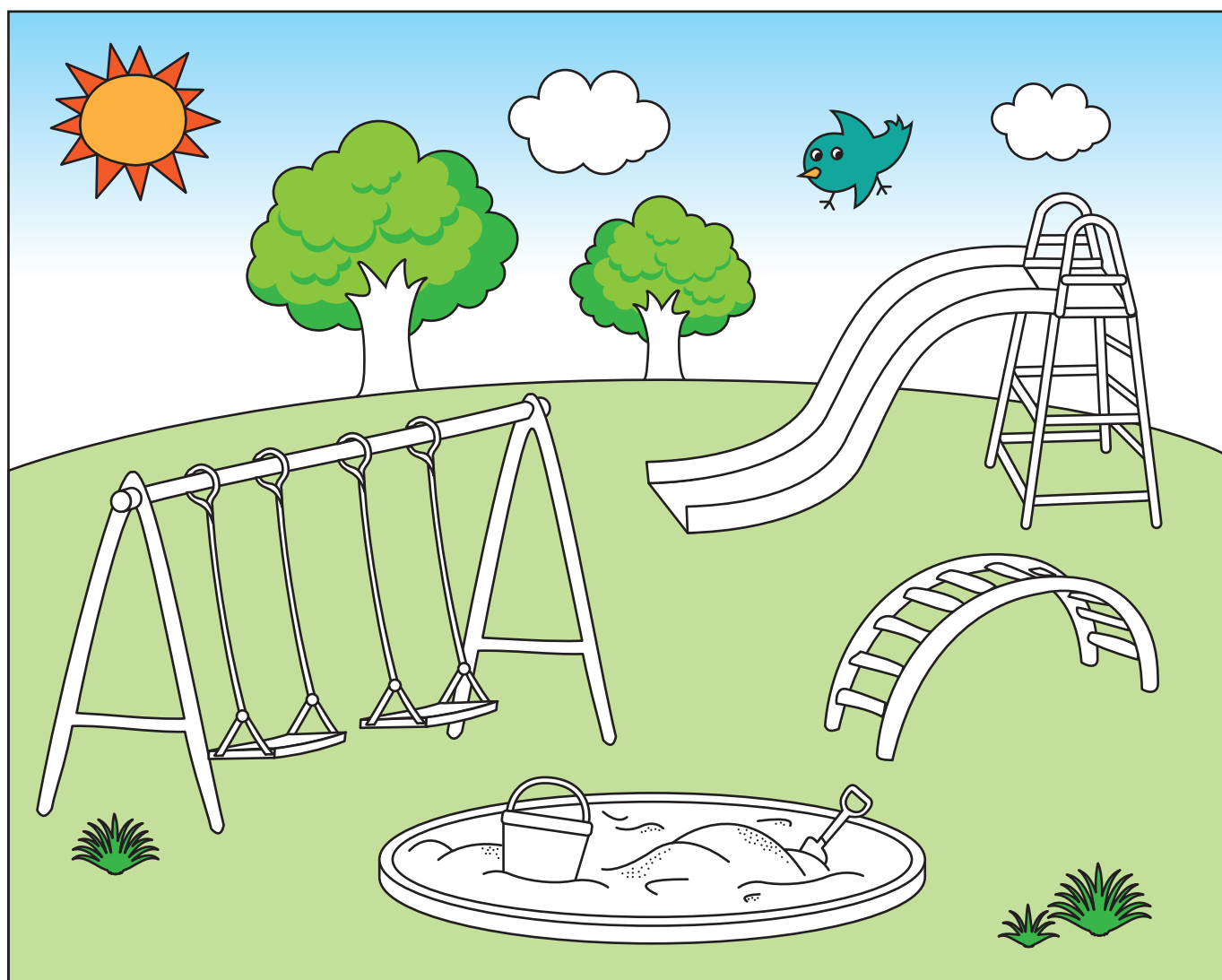
塑膠：紅色
Plastic: Red



木：啡色
Wood: Brown



沙：黃色
Sand: Yellow

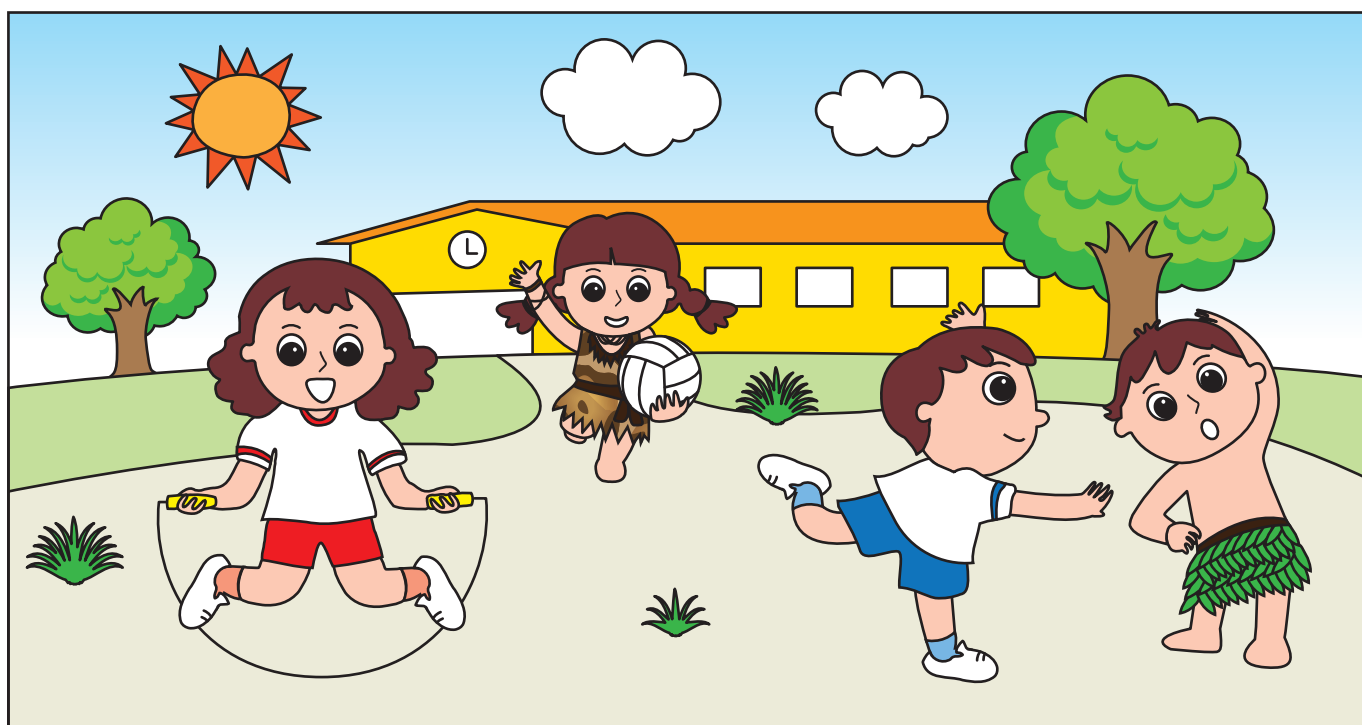
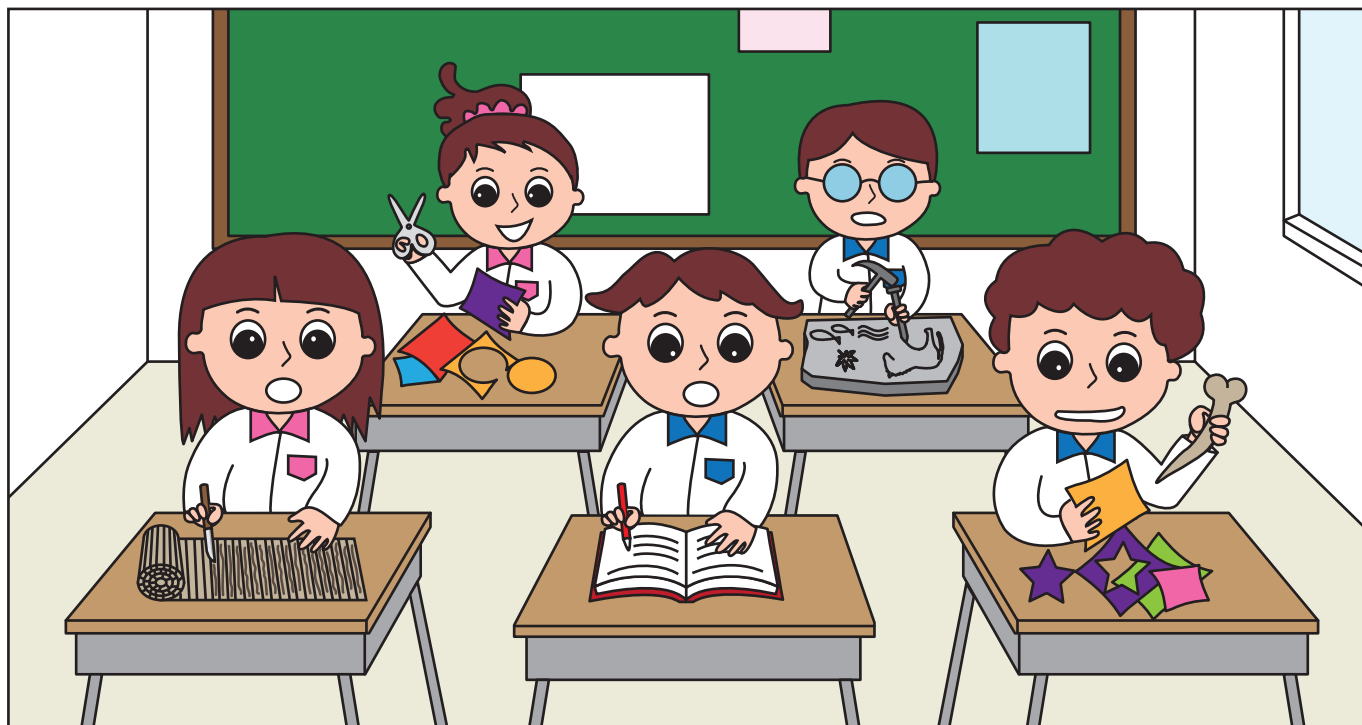


「怪料」學園 Strange Matter, Strange Time

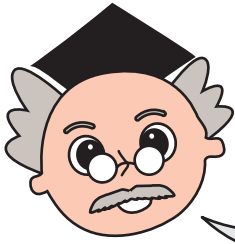


時空好像出了岔子! 一些由過時、淘汰了的物料製造的東西再次出現在這所學校裏。你能把這些「過時的物件」圈出來嗎?

Time and space seem to go wrong and some outdated, obsolete materials appear in this weird school. Can you spot and circle those "past objects"?



神奇用途 Great Strength Comes with Great Responsibility



展覽中的神奇物質因其特性而在現代大為普及。試完成下面的「畫鬼腳」遊戲，看看展出的奇特物料在日常生活中的應用例子。

提示：從一物件沿垂直線向下走，每當遇到水平線便橫移，再遇到垂直線時繼續向下走。

Matter with special properties are often used in various modern application. Finish the 'Ghost Leg' below to link the frontier materials shown in the exhibition with their daily life application.

Hint: Go down from any object along a vertical line. Turn around whenever you meet a horizontal line. Then turn and go downward again when you meet a vertical line.



手提電話
Cell phone



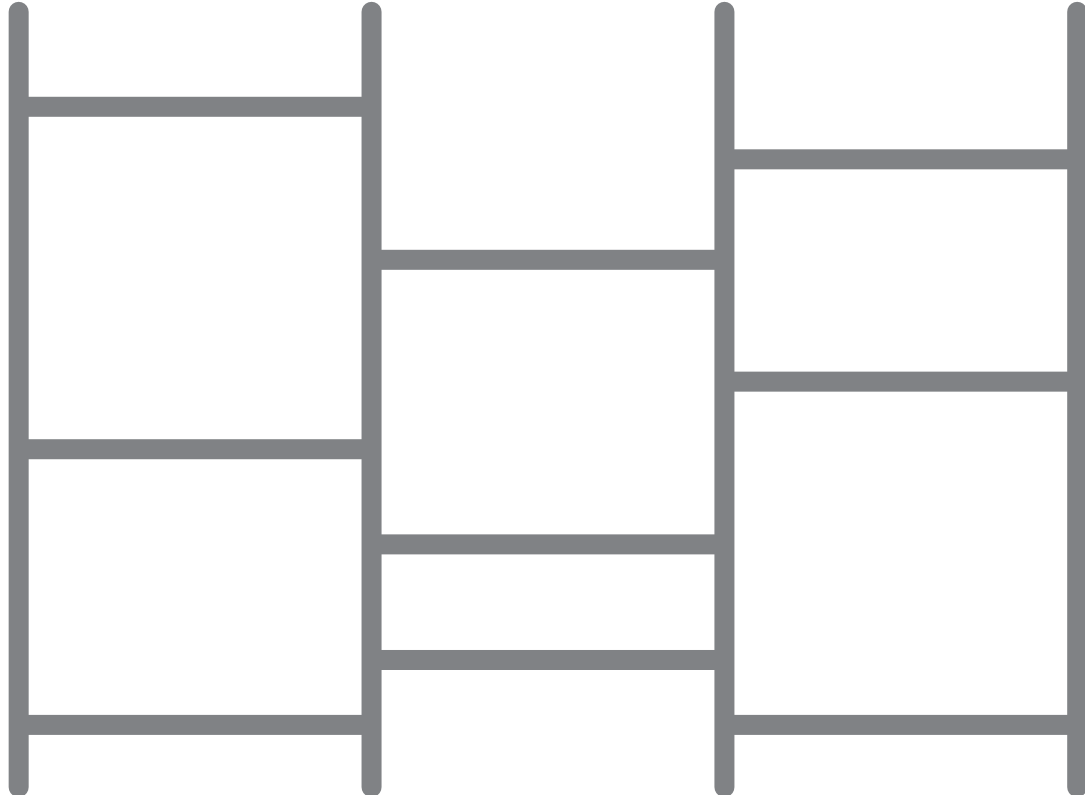
汽車避震器
Vehicle suspension system



眼鏡
Glasses



玻璃幕牆
Glass wall



鐵磁流體
Ferrofluid

強化玻璃
Tempered glass

非晶態金屬
Amorphous metal

形狀記憶合金
Shape memory alloy

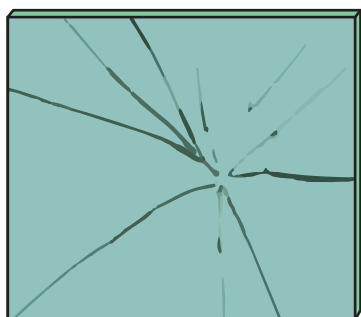
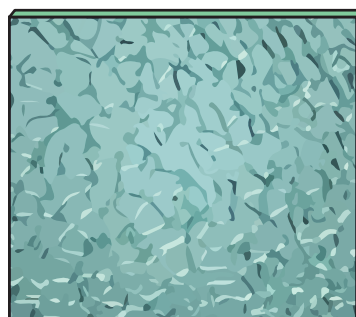
物質奇趣錄 Too Strange Matter!



這次展覽介紹了不同的神奇物質。你能分辨出與這些神奇物質相關的正確現象嗎？請在適當的方格上加剔號。

Different strange matter has been introduced in the exhibition. Please put a tick in the box next to the picture which shows the right phenomenon of the matter.

1. 強化玻璃 Tempered glass

☐☐

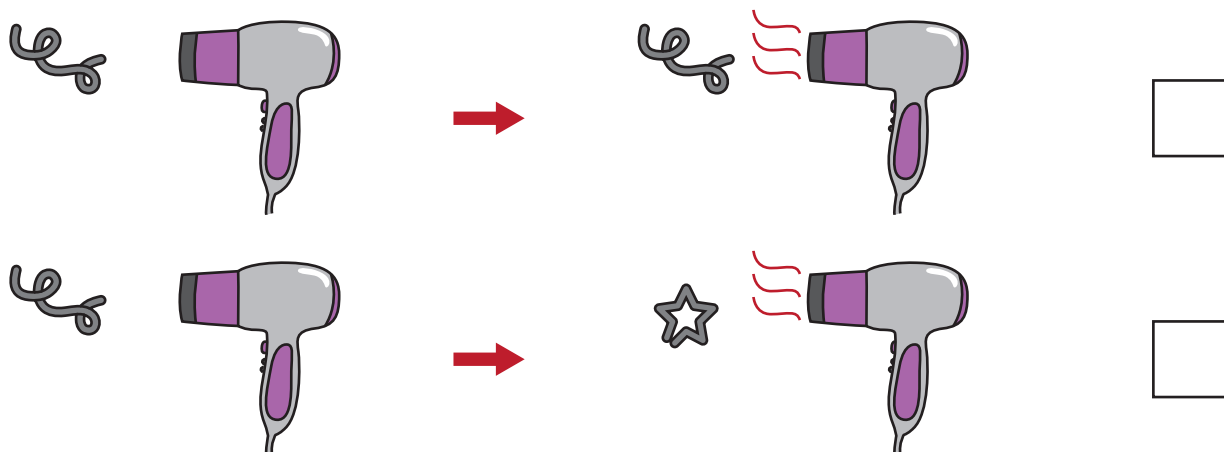
2. 鐵磁流體 Ferrofluid

☐☐

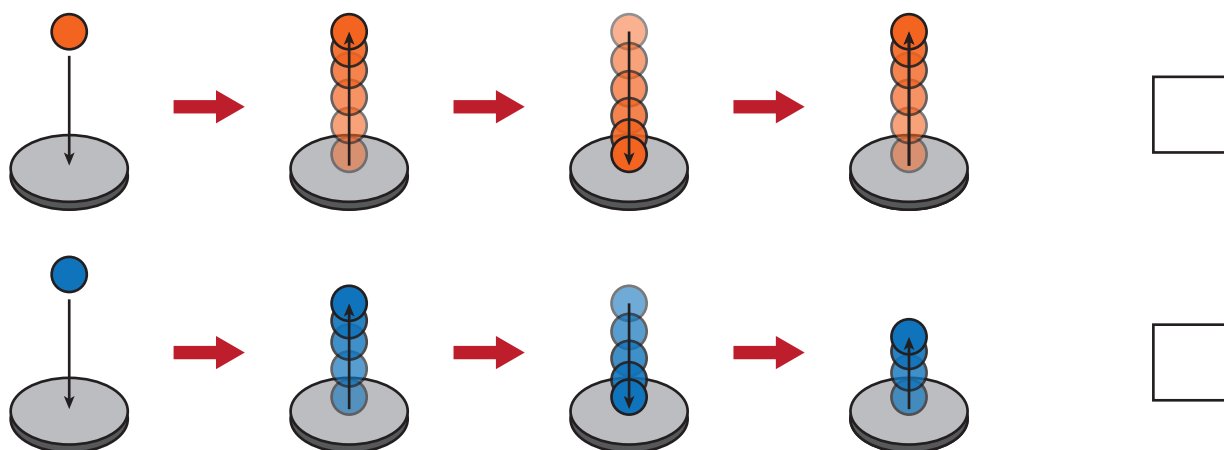
3. 氣泡 Foam

☐☐

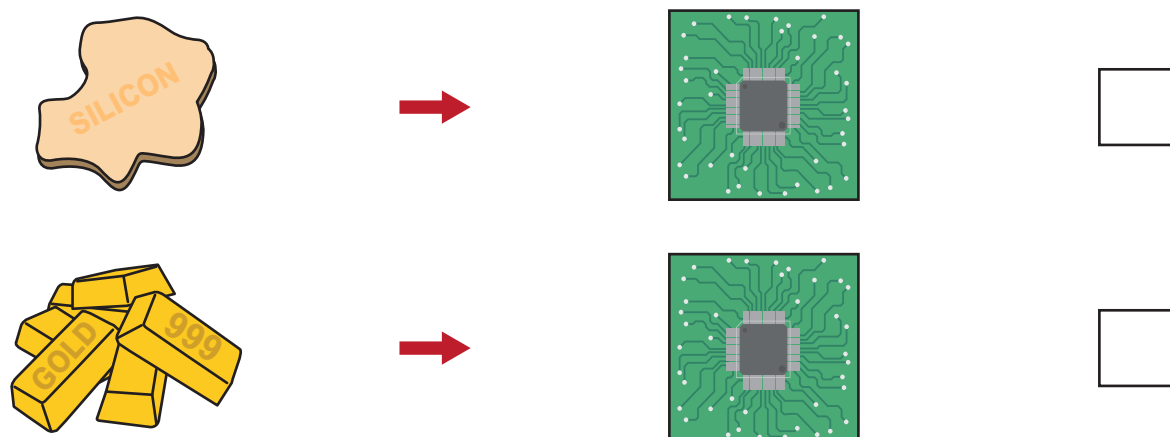
4. 形狀記憶合金 Shape memory alloy



5. 非晶態金屬 Amorphous metal



6. 矽片 Silicon chip



物料小偵探 Matter Detective



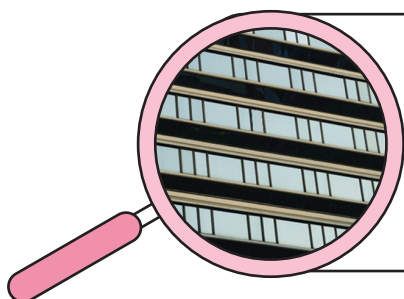
物質都具有各自獨特的性質。觀察下列物品，並圈出它們具備的性質。
Matter has specific properties. Observe the following materials and circle their right properties.



順滑 Smooth / 粗糙 Rough

透明 Transparent / 不透明 Opaque

彈性 Elastic / 剛硬 Rigid



順滑 Smooth / 粗糙 Rough

透明 Transparent / 不透明 Opaque

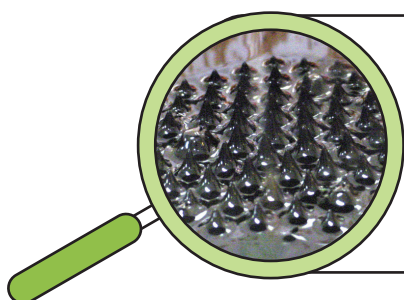
磁性 Magnetic / 非磁性 Non-magnetic



軟 Soft / 硬 Hard

光滑 Shiny / 暗啞 Dull

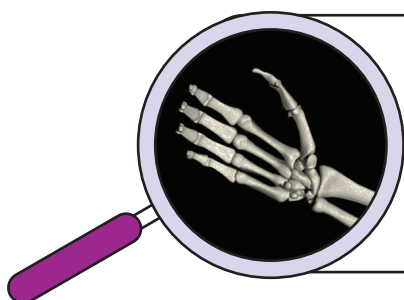
導電 Conductive / 非導電 Non-conductive



固體 Solid / 液體 Liquid

流質 Fluid / 粘質 Viscous

磁性 Magnetic / 非磁性 Non-magnetic



固體 Solid / 液體 Liquid

透明 Transparent / 不透明 Opaque

軟 Soft / 硬 Hard