

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?
全部滑倒
2. In daily life, what are the items produced by reducing friction?
直排車輪
3. In daily life, which items are produced by increasing friction?
寶特瓶蓋

Language: Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

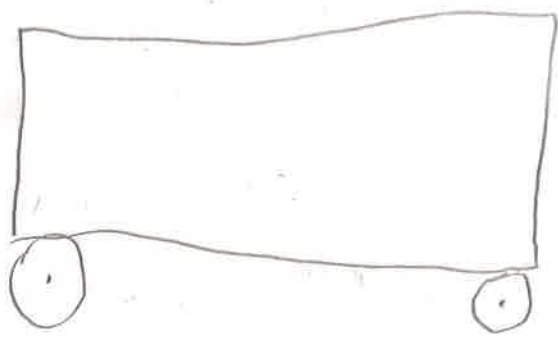
Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):
吸氣管

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
我不知道	我不想知道	摩擦力真神奇

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

全部滑倒

2. In daily life, what are the items produced by reducing friction?

直排陣輪

3. In daily life, which items are produced by increasing friction?

寶特瓶瓦蓋

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

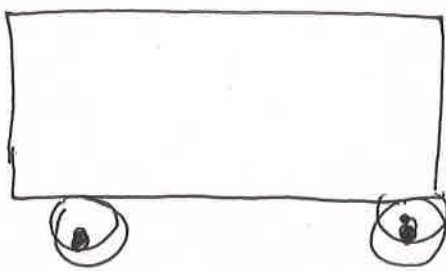
Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): 竹、口皮管、紙盒、瓶瓦蓋

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
摩擦力	太空有摩擦力嗎	造飛車的結果好奇待

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

會站不起來

2. In daily life, what are the items produced by reducing friction?

是滑油、加滾輪、在腳踏車上加真輪

3. In daily life, which items are produced by increasing friction?

瓶蓋刻紋路、

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
----------------	---------------	--

摩擦力取決於表面材質

1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):

瓶蓋、肥皂盒、吸管、竹片

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
如何增加或減少摩擦力	想體驗一下沒有摩擦力	摩擦力真特別

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction? 摩擦力

A: 滑倒。

2. In daily life, what are the items produced by reducing friction?

A: 輪胎、直排輪。

3. In daily life, which items are produced by increasing friction?

A: 寶特瓶蓋子。

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram
 Material(材料): 木條、瓶蓋、紙盒、吸管

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
如何增加摩擦力。	如何在一瞬間讓摩擦力消失?	摩擦力真神奇。

At

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

We will 滑倒

2. In daily life, what are the items produced by reducing friction?

上 oil

3. In daily life, which items are produced by increasing friction?

add 紋路 on wheels.

Language : Please read the following sentences

friction (摩擦力)	material (材質)
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram
 Material(材料): straw, box, lid(蓋子), sticks, tape

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
I know 摩擦力的作用。	I want to know why have 摩擦力.	I'm very very very very very very very very very

happy at 12
 this class! :D

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

We will 滑倒. ✓

2. In daily life, what are the items produced by reducing friction?

上 oil 在 bicycle's 齒輪上 ✓

3. In daily life, which items are produced by increasing friction?

紋路(工具) ✓

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): straw, box, lid(蓋子), stick, tape.
吸管

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
I know that 摩擦力的應用。	I want to know that why we need 摩擦力, but 沒有摩擦力的世界是什麼。	I'm very happy.

AT

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

We will lie on the floor. ✓

2. In daily life, what are the items produced by reducing friction?

oil

3. In daily life, which items are produced by increasing friction?

add lines on the wheels

Language : Please read the following sentences ✓

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): *straw - box - ~~lid~~ lid(蓋子) - sticks - tape*

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
<i>I know teacher is a good man. I know friction.</i>	<i>I want to know why there is force around the world</i>	<i>I like teacher very very much!</i>

what is

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

We will 滑倒.

2. In daily life, what are the items produced by reducing friction?

上 oil.

3. In daily life, which items are produced by increasing friction?

add 紋路

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): box, tape, 瓶蓋, wood stick, 吸水管, rock

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
I know what is friction.	I want to know what is (地心引) in English.	I think English can more.

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

We will 滑倒。

2. In daily life, what are the items produced by reducing friction?

give it oil.

3. In daily life, which items are produced by increasing friction?

On the car of the 輪輪, it give more friction.

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):
 box 瓶蓋, tape, wood stick, 吸管, rock

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
I know what is Force.	I want to know what is gravity.	I think we can read more English.

in chinese.

read more English.

Force and movement- Friction

A++

Warmer

1. What happens if the classroom floor loses friction?

我站都站不起來、會滑倒。

2. In daily life, what are the items produced by reducing friction?

在生鏽的物品上上油，可以變的很順。

3. In daily life, which items are produced by increasing friction?

在工具內的紋路，可以增加摩擦力。

Language : Please read the following sentences

friction (摩擦力)	material (材質)
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): 優格盒、瓶蓋、竹根、吸管

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
I know friction english.	I want to know 優格盒 and english.	Teacher you can say some chinese.

A17

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?
我想所有人都會滑倒。
2. In daily life, what are the items produced by reducing friction?
在門上上油、在推車的滾輪。
3. In daily life, which items are produced by increasing friction?
工具內的紋路、輪子上的紋路。

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
----------------	---------------	--

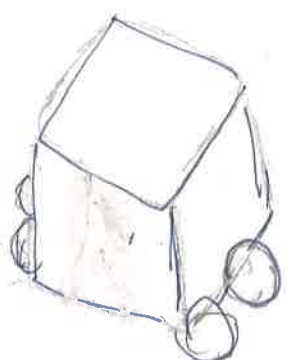
- 摩擦力取於 接觸面材質。
1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram
Material(材料): 吸管、杯子、竹簽

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
I know what is a force.	I want to know why 阻力 is not contact force.	Teacher can say slowly.

水有碰到物體

A+

Force and movement- Friction

Warmer

摩擦力

1. What happens if the classroom floor loses friction?

會變很滑

2. In daily life, what are the items produced by reducing friction?

在門上上油

3. In daily life, which items are produced by increasing friction?

車輪的紋路、鞋子上的紋路

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):
竹筒、盒子、吸管

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
我學到怎麼增加摩擦力和減少摩擦力	我想知道磁力的英文是什麼	請多說英文

Force and movement- Friction

A+

Warmer

1. What happens if the classroom floor loses friction?
會變很滑、會站不起來
2. In daily life, what are the items produced by reducing friction?
在生鏽的物品上上油
3. In daily life, which items are produced by increasing friction?
在輪子加上紋路。

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content


Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):



Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
我知道材質的英文	我想知道為什麼煮菜產生的油煙會變成酸雨	請多說些英文

because CO₂


Force and movement- Friction

A++

Warmer

摩擦力

1. What happens if the classroom floor loses friction?

跌倒-站不起來 

2. In daily life, what are the items produced by reducing friction?

在直排輪輪上裝滾輪、上油

3. In daily life, which items are produced by increasing friction?

輪子上的刻紋。

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.


Content

Watch a video of [Top 10 Crashes from London's Red Bull Soapbox Race \(5:40\)](#) and make a car to be a race.

design diagram

Material(材料):
Soapbox、吸管、瓶蓋、竹籤

Modeling(造型):



✓

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
寶特瓶蓋上的紋路 可以增加摩擦力!	水有摩擦力嗎? 有	我學到了好多新單字!

✓ ✓ ✓

Force and movement- Friction

At

Warmer

1. What happens if the classroom floor loses friction?

會很滑 ✓

2. In daily life, what are the items produced by reducing friction?

上油、加輪子 ✓

3. In daily life, which items are produced by increasing friction?

沙紙、輪子的紋路 ✓

Language : Please read the following sentences

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1. Friction is influenced by the material of the contact surface of the object.

摩擦力

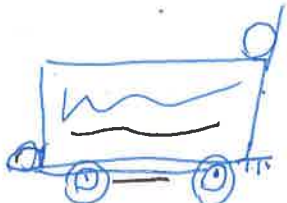
Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):
盒子、竹快、吸管、管子

Modeling(造型):



✓

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
輪子上的紋路 可以增加摩擦力 ✓	輪子是加摩擦力 還是一少 ✓	黃老師的學習 單要改的字 比較少 ✓

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

很滑

2. In daily life, what are the items produced by reducing friction?

上油

3. In daily life, which items are produced by increasing friction?

砂紙

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.


Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): 盒子、竹子、瓶蓋、吸管

Modeling(造型):



✓

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
超距力不用接觸到物體	正羊使者後來怎麼了?	我的英文變好了

A++

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?
we can't stand.
2. In daily life, what are the items produced by reducing friction?
油
3. In daily life, which items are produced by increasing friction?
輪子上的紋路

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of [Top 10 Crashes from London's Red Bull Soapbox Race \(5:40\)](#) and make a car to be a race.

design diagram

Material(材料):
輪子:瓶蓋, 車身:盒子, 輪軸:竹簽, 吸管

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
瓶蓋上的紋路是為了增加摩擦力	空氣中有摩擦力嗎? 有呀!	上完後,英文感覺變簡單! English is good!

格

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

滑滑的

2. In daily life, what are the items (項目) produced by reducing friction?

上生油 加輪子

3. In daily life, which items are produced by increasing friction?

瓶蓋的紋路

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): 瓶蓋, 吸管, 竹片, 牙帶

Modeling(造型):

Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
<p>我知道力的作用和力在生活上的例子</p>	<p>力可以把整塊的碎片打成多邊像嗎?</p>	<p>老師教的很有趣，英文也很通順，教的我都聽得懂。</p>

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

站不起來

2. In daily life, what are the items produced by reducing friction?

減少, 上樓

3. In daily life, which items are produced by increasing friction?

增加, 紋路

A

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

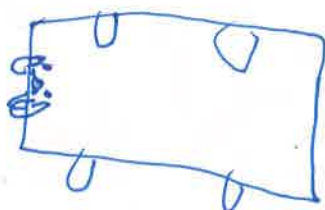
Content

Watch a video of [Top 10 Crashes from London's Red Bull Soapbox Race \(5:40\)](#) and make a car to be a race.

design diagram

Material(材料): 吸管, 竹筒, 盒子, 輪子

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
摩擦力的大小	摩擦力的大小沒有	好棒! 我的自然進進步很多!

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?
只能在地板上站不起來
2. In daily life, what are the items produced by reducing friction?
如果減少的話，上油
3. In daily life, which items are produced by increasing friction?
瓶蓋上的紋路

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
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1. Friction is influenced by the material of the contact surface of the object.

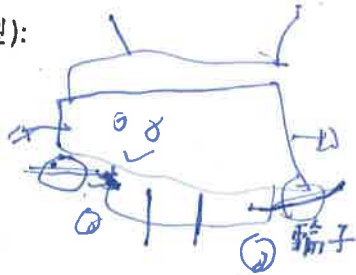
Content

Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料): 輪子用瓶蓋 車身用盒子, 吸管當框架

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
學到水溶液的酸鹼性	月亮怎麼出現	希望老師上課的時候在有趣點

A++

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?
無法站在地版上，如果強行站起來，就會跌倒。
2. In daily life, what are the items produced by reducing friction?
可以上潤滑油。
3. In daily life, which items are produced by increasing friction?
手指上的指紋、輪胎上的紋路、瓶蓋上的紋路等...

Language : Please read the following sentences

friction (摩擦力)	material (材質)	
----------------	---------------	--

1. Friction is influenced by the material of the contact surface of the object.

material 材質

Content

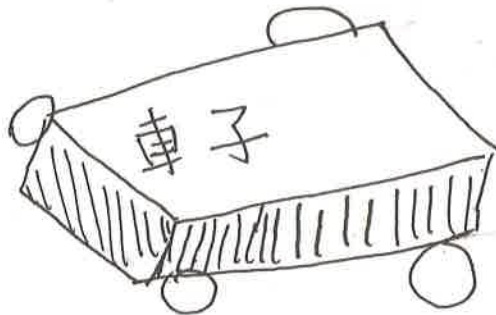
Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):

瓶蓋x4、紙盒、竹籤。

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
生活中摩擦力的例子，如何比跑步的快慢	除了地心引力和磁力還有其他超距力嗎？	希望老師多播與上課相關的影片 good!

A+

Force and movement- Friction

Warmer

1. What happens if the classroom floor loses friction?

會不起來 ✓

2. In daily life, what are the items produced by reducing friction?

在輪子上上油 ✓

3. In daily life, which items are produced by increasing friction?

在輪子上刻深淺不同的線 ✓

Language : Please read the following sentences

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1. Friction is influenced by the material of the contact surface of the object.

Content

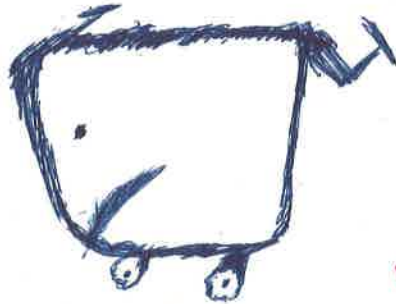
Watch a video of Top 10 Crashes from London's Red Bull Soapbox Race (5:40) and make a car to be a race.

design diagram

Material(材料):

優生盒、瓶蓋、吸管、

Modeling(造型):



Thinking

K(What I know)	W(What I want to know)	L(What I have learned)
我知道怎麼增加摩擦力 ✓	我想學磁力的英文 ✓	我知道摩力怎麼應用摩擦 力 ✓