教育局
課程及質素保證科
課程支援分部
校本支援處
小學校本課程發展組
小學數學領導教師學習社群
（2021/22）總結分享會
2022年7月25日

小學數學領導教師學習社群

利用電子學習平台Pear Deck 提升課堂效率及加強教師回饋

25-7-2022

觀課分享及檢討

香港浸會大學附屬學校王錦輝中小學

Hong Kong Baptist University Affiliated School
Wong Kam Fai Secondary and Primary School

胡翠瑜老師

活動設計學習目的

- 利用Pear Deck平台進行跨課題互動電子學習活動
- 以跨課題解難活動為要點
- 提升課堂整體學生參與度
- 老師在課堂上因應學生回應，控制學習進程、速度

Pear Deck™

觀課內容學習目標

- 舊課程 - 6S1 小學六年級截面 (Cross sections)
- 新課程 - 5S2 小學五年級截面 (Cross sections)

課程闡釋：

學生已在二年級學習角柱和角錐的底和側面、圓柱和圓錐的底和曲面、球的曲面的概念。在本學習單位，學生須認識立體截面的概念，並須認識平行於角柱和圓柱的底的截面，其形狀和大小皆與底相同；而平行於角錐和圓錐的底的截面則大小不同。學生不須使用「均勻截面」一詞描述角柱和圓柱的截面。

Explanatory Notes:

Students have learnt the concepts of the bases and lateral faces of prisms and pyramids, the bases and curved surfaces of cylinders and cones, and the curved surfaces of spheres in Primary Two. In this learning unit, students are required to recognise the concept of cross sections of 3-D shapes. They should recognise that the sizes and shapes of the cross sections of the prisms and the cylinders that are parallel to the bases are the same as that of the bases while the sizes of the cross sections of pyramids and cones that are parallel to their bases are different from that of the bases. Students are not required to use the term “uniform cross sections” to describe cross sections of prisms and cylinders.

課室設計

背景資料

- 學生已完成學習有關截面內容
- 兩週後進行以下課堂的深化學習
- 以跨課題形式重溫各範疇（圖形與空間／度量）
- 融會貫通，加以應用
- 能力較強的六年級同學
- 以英文為MOI

觀課內容（一小時）

01 引入、簡介學習目標

02 重溫截面定義

已有知識

03 前測/熱身

六條選擇題及畫圖

04 跨課題解難

扣連體積、周界、面積

05 進階題型

學生進行討論

06 自評

學生自行檢討學習

01

引入

Targets

Recall the formula for finding area and perimeter

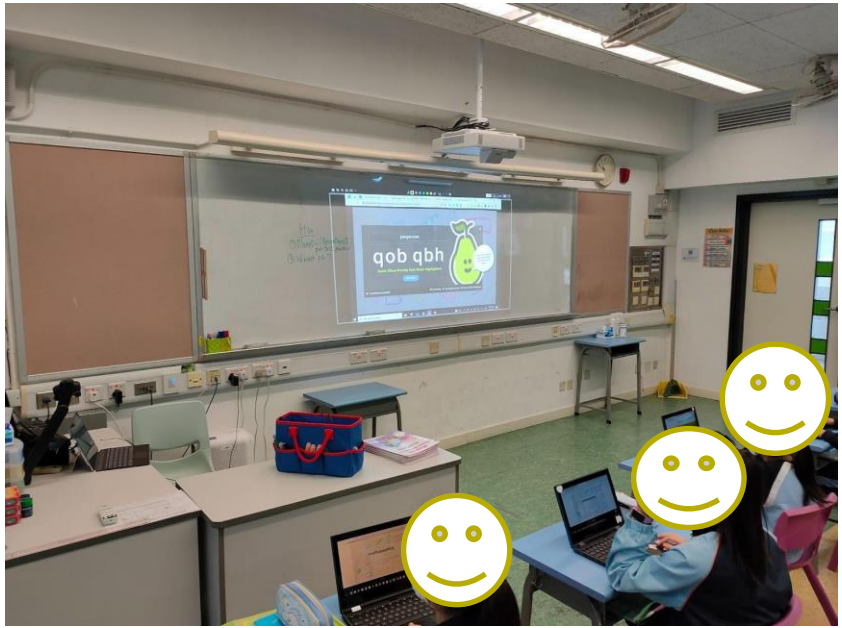
Draw the cross-section of different 3-D shapes

Draw with straight lines

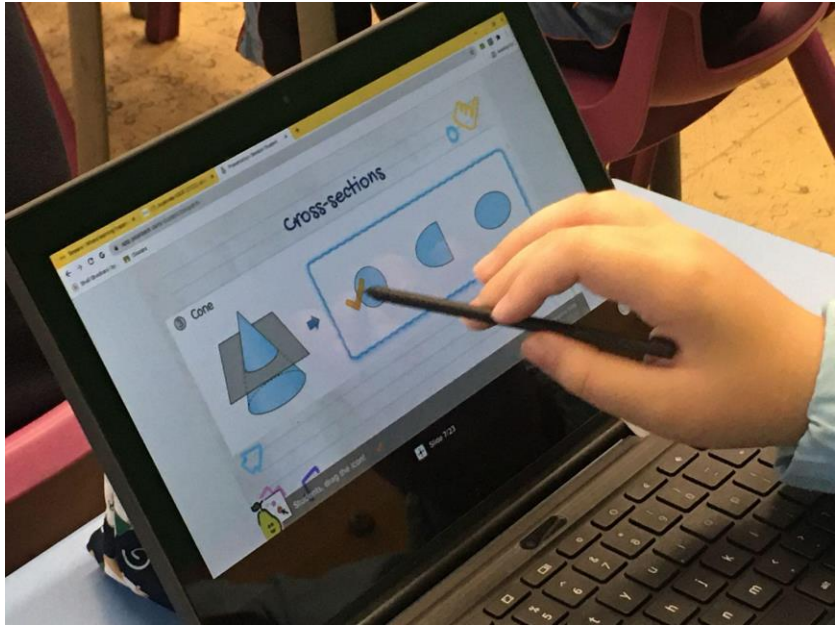
Demonstrate a serious learning attitude

進入Pear Deck虛擬教室

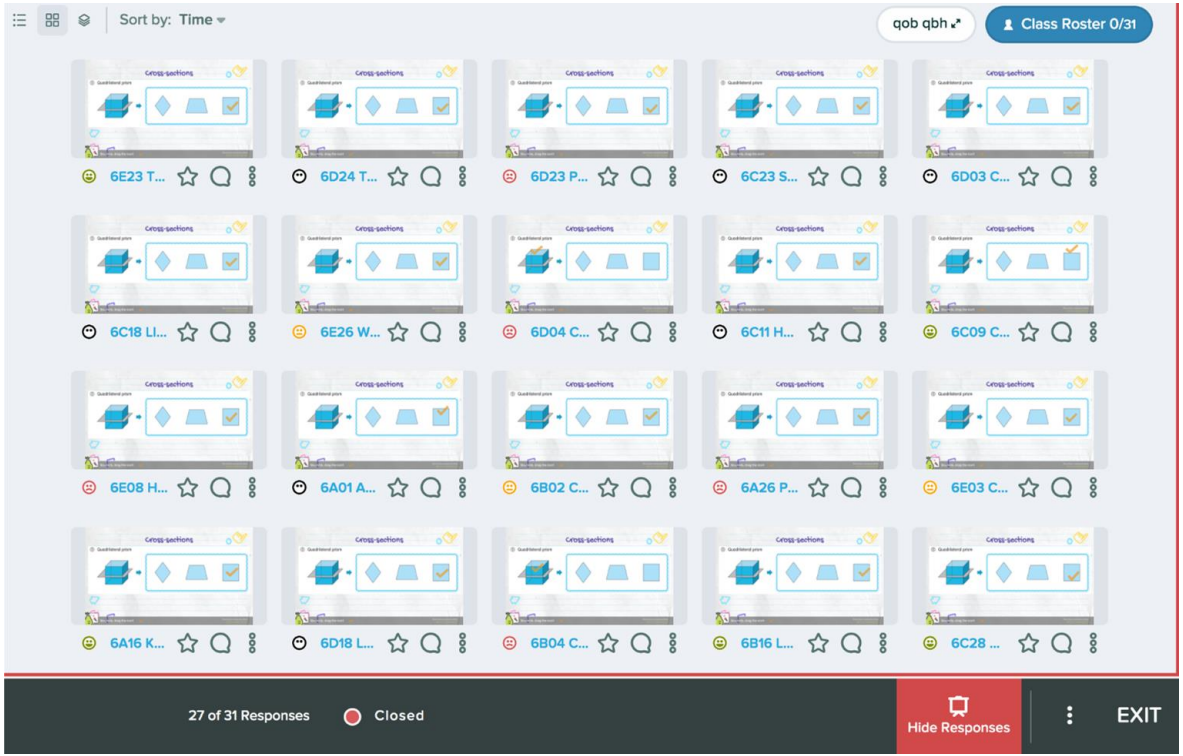
https://app.peardeck.com/join



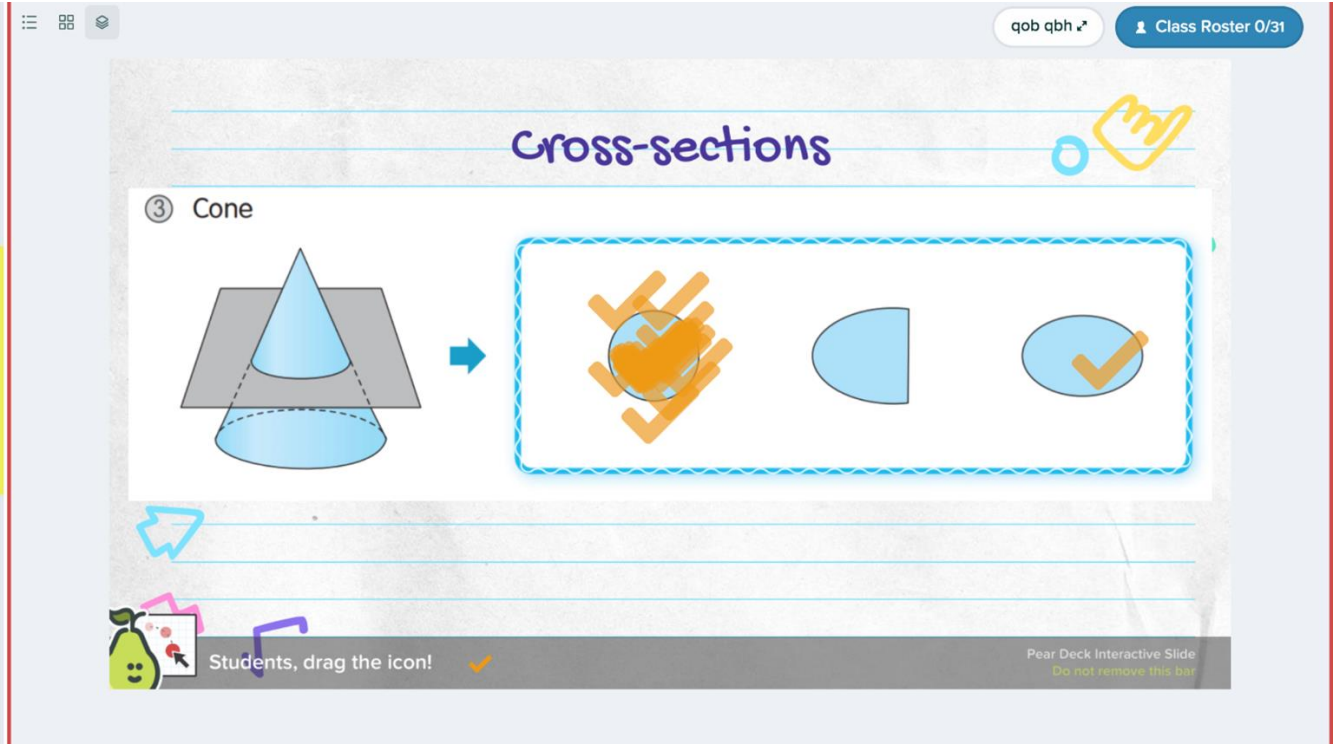
前測



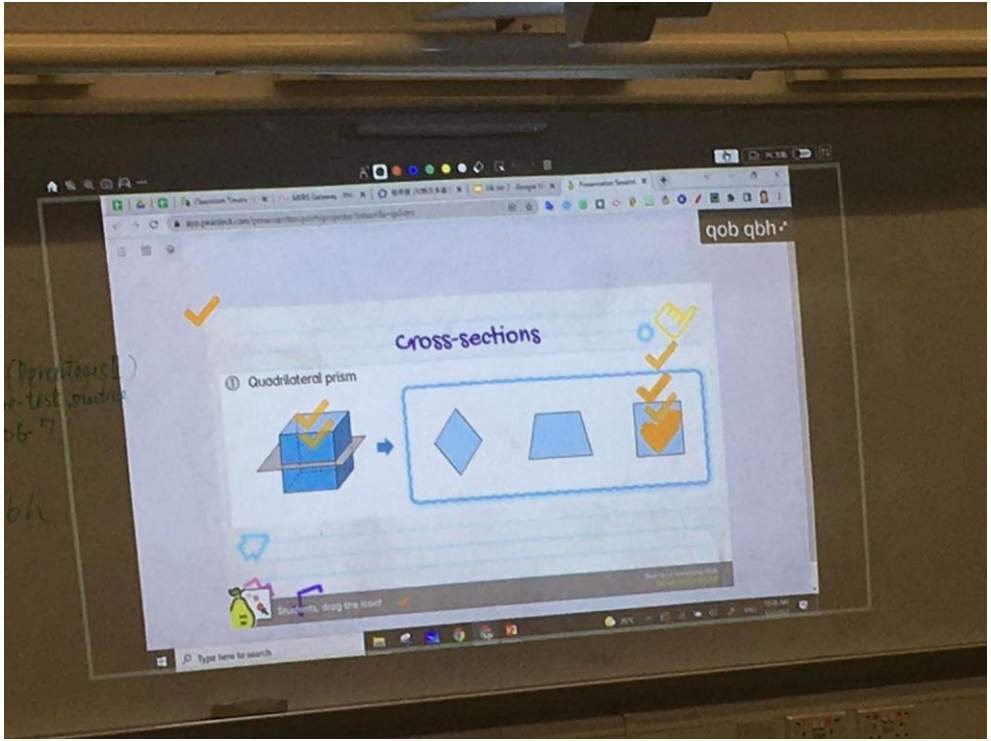
前測/熱身


Sort by: Time
qob qbh
Class Roster 0/31
6E23 T...
6D24 T...
6D23 P...
6C23 S...
6D03 C...
6C18 Ll...
6E26 W...
6D04 C...
6C11 H...
6C09 C...
6E08 H...
6A01 A...
6B02 C...
6A26 P...
6E03 C...
6A16 K...
6D18 L...
6B04 C...
6B16 L...
6C28 ...
27 of 31 Responses
Closed
Hide Responses
EXIT

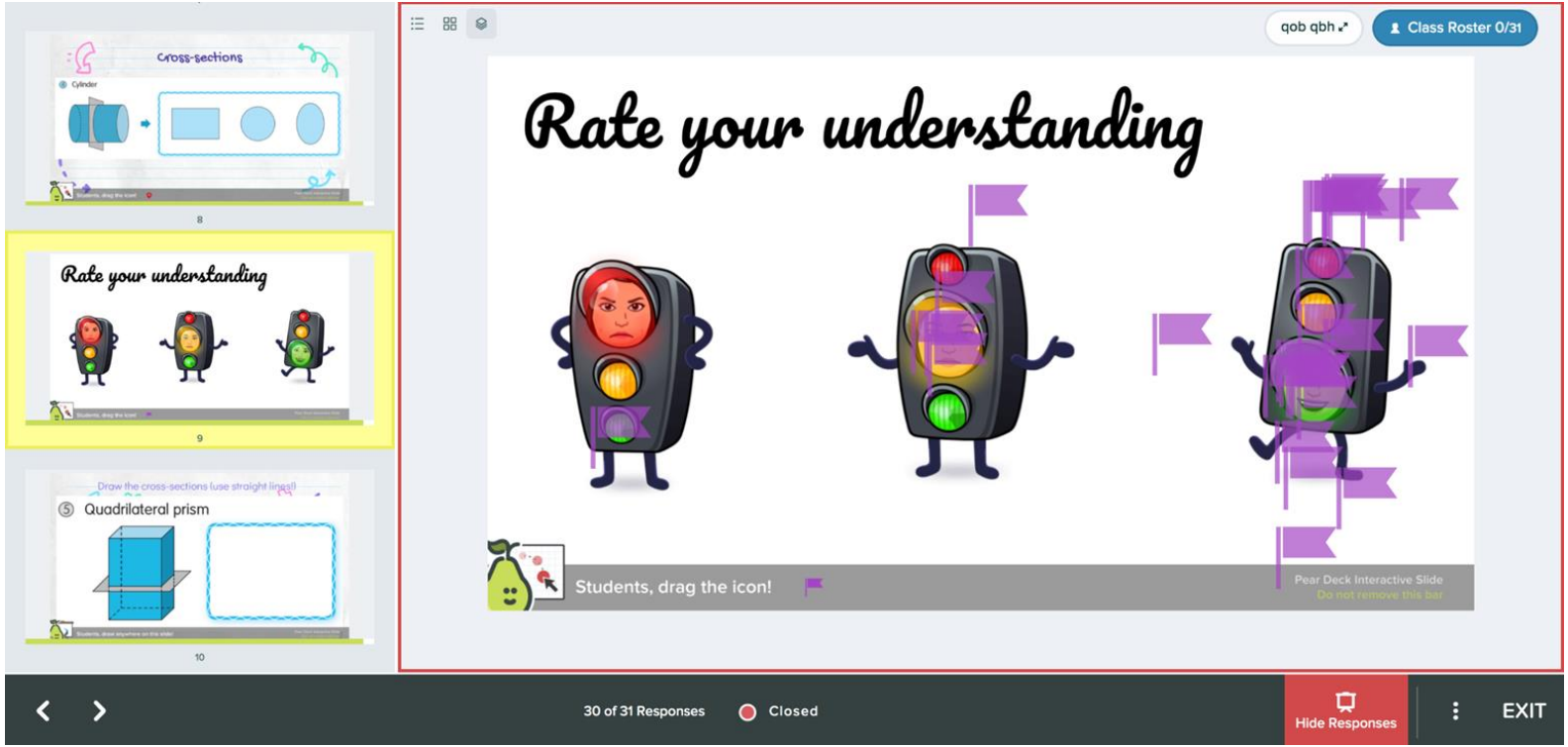
前測/熱身


qob qbh
Class Roster 0/31
Cross-sections
③ Cone
Students, drag the icon!
Pear Deck Interactive Slide
Do not remove this bar

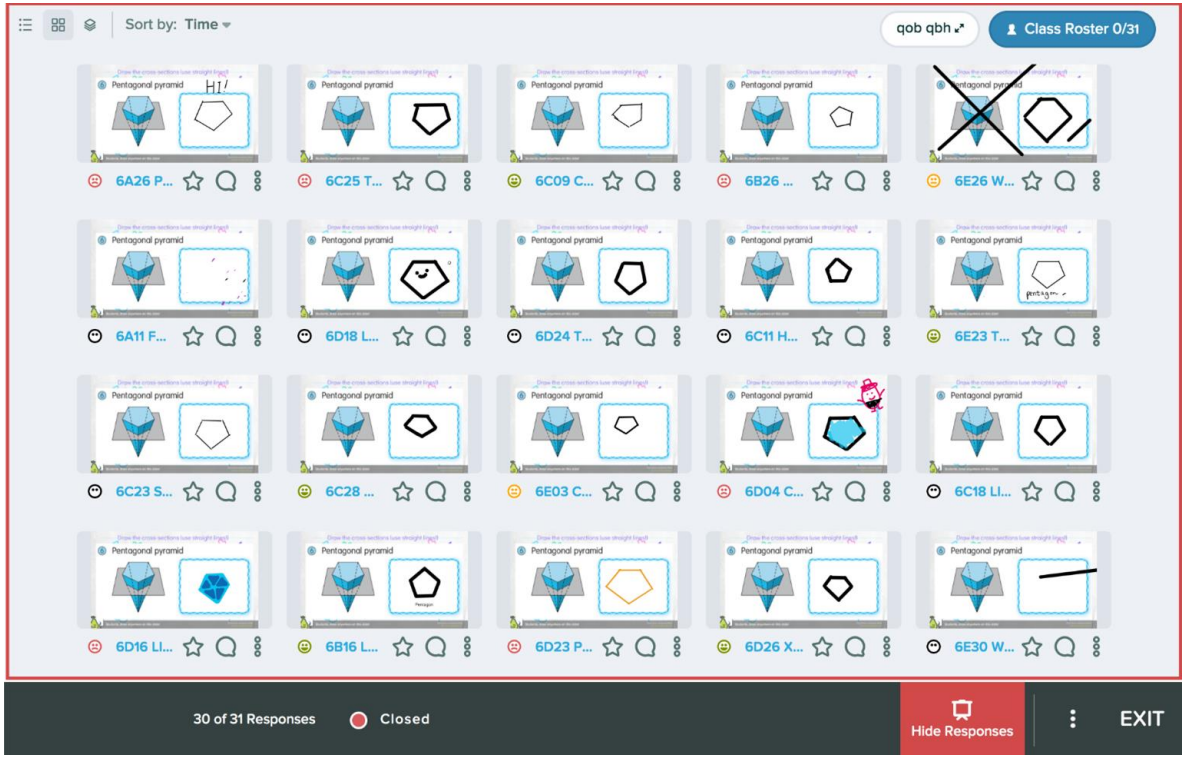
課室環境



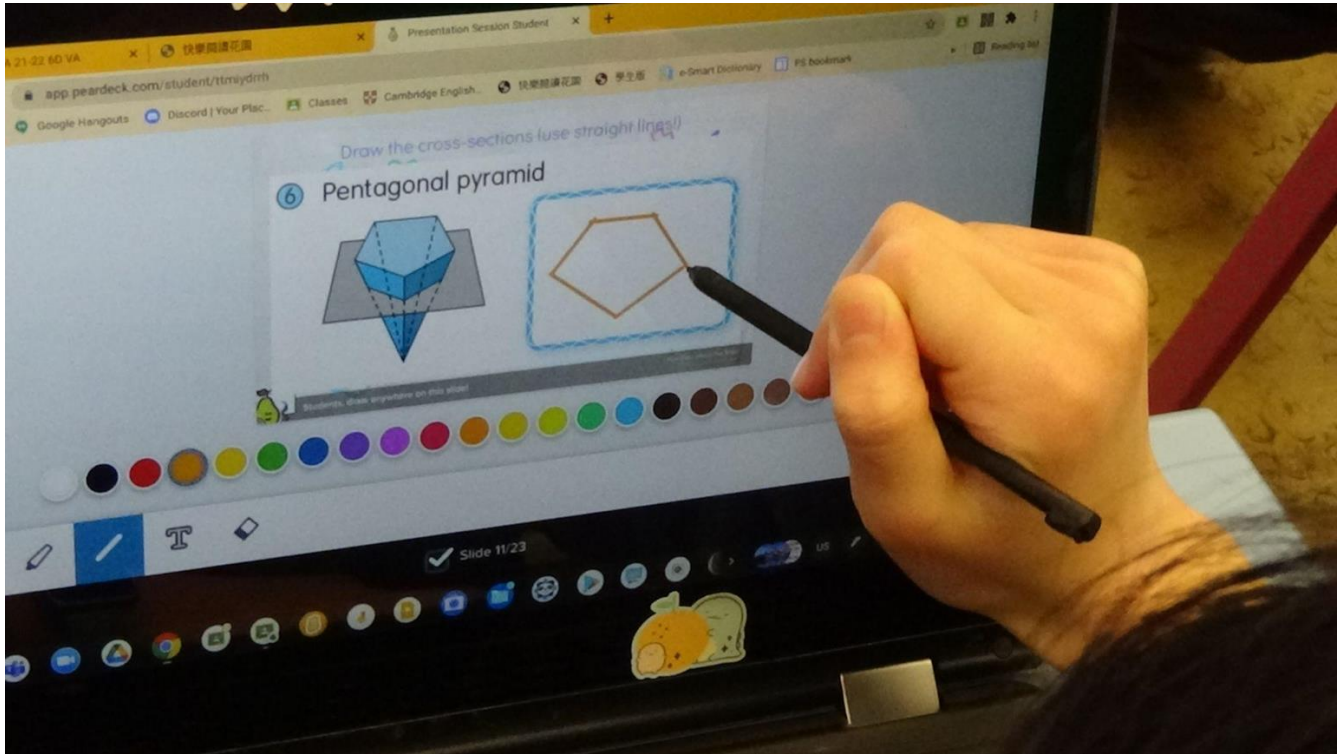
前測/熱身


Cross-sections
Cylinder
8
Rate your understanding
9
Draw the cross-sections (use straight lines!)
5 Quadrilateral prism
10
qob qbh
Class Roster 0/31
Rate your understanding
Students, drag the icon!
Pear Deck Interactive Slide
Do not remove this bar
30 of 31 Responses
Closed
Hide Responses
EXIT

前測/熱身

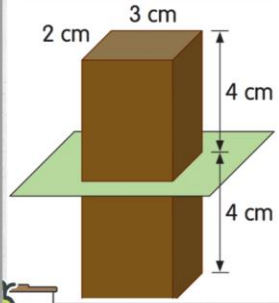

Sort by: Time
qob qbh
Class Roster 0/31
Pentagonal pyramid
6A26 P...
6C25 T...
6C09 C...
6B26 ...
6E26 W...
6A11 F...
6D18 L...
6D24 T...
6C11 H...
6E23 T...
6C23 S...
6C28 ...
6E03 C...
6D04 C...
6C18 LI...
6D16 LI...
6B16 L...
6D23 P...
6D26 X...
6E30 W...
30 of 31 Responses
Closed
Hide Responses
EXIT

前測/熱身


app.peardeck.com/student/ttmiydrrh
Draw the cross-sections (use straight lines!)
6 Pentagonal pyramid
Slide 11/23

解難部份（長方體）

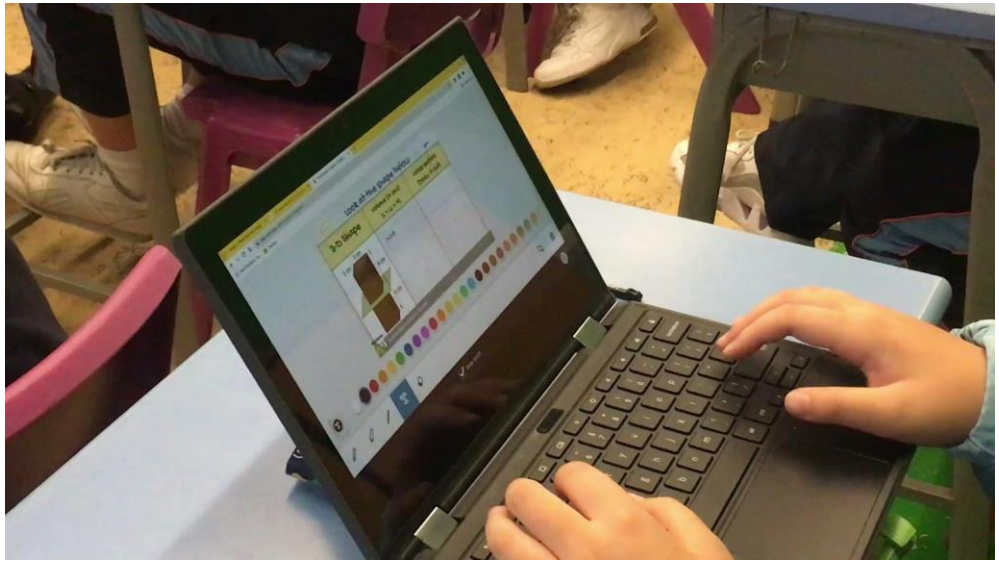
Look at the shape below

3-D Shape	Volume (in cm3) (L × w × H)	Cross-section (Draw it out)	Perimeter of the cross-section (in cm)	Area of the cross-section (in cm2)
				

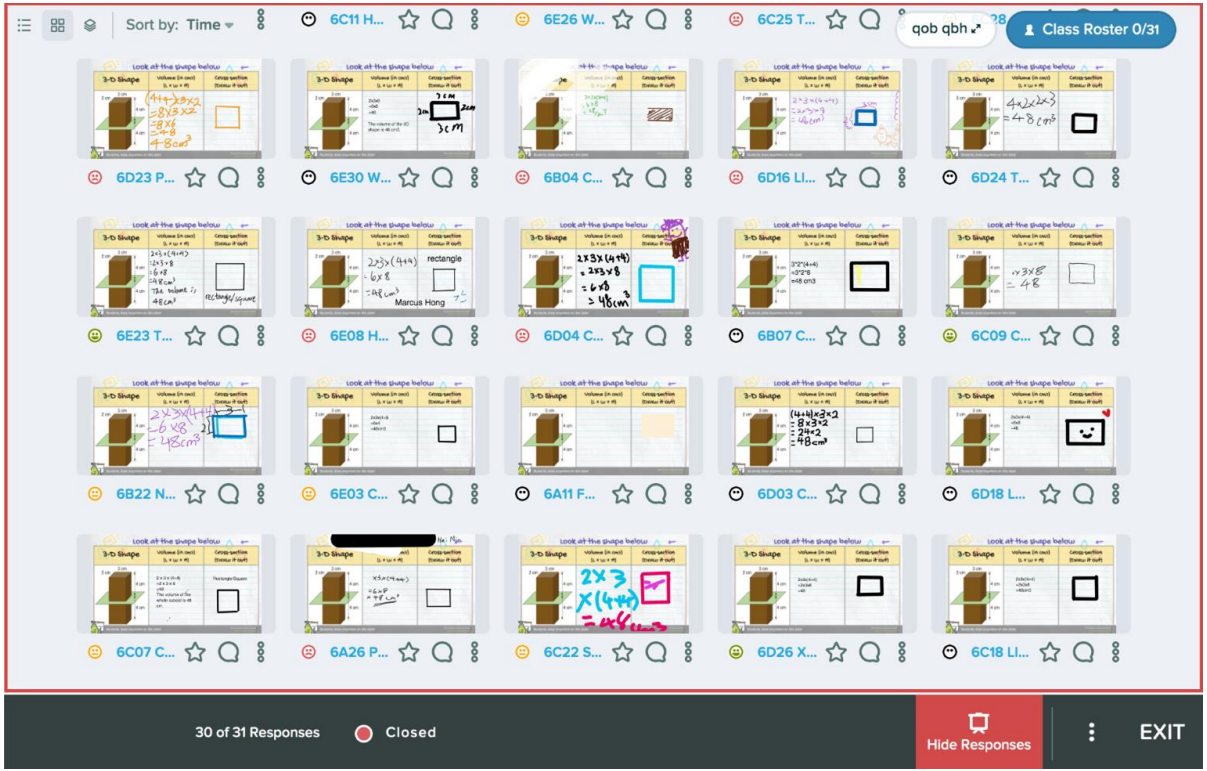
Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

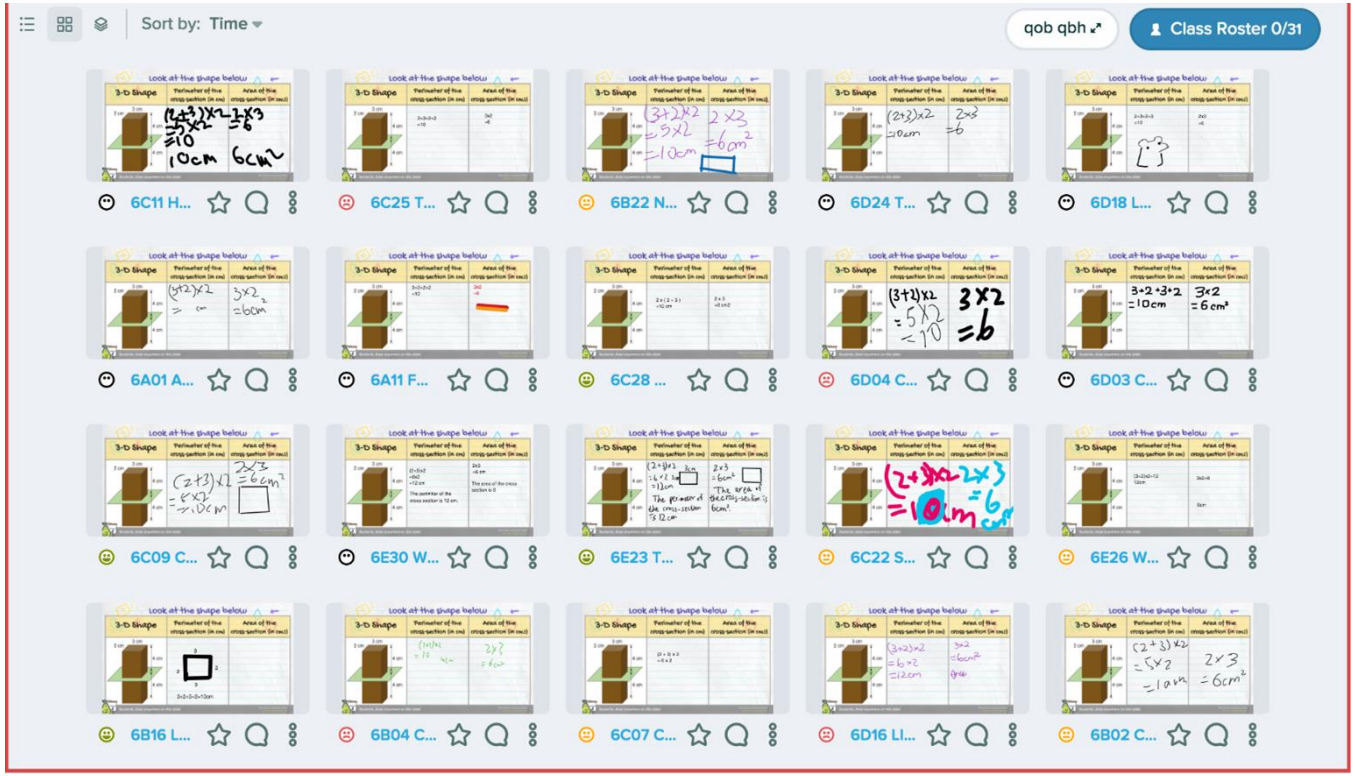
解難部份（長方體）



解難部份（長方體）

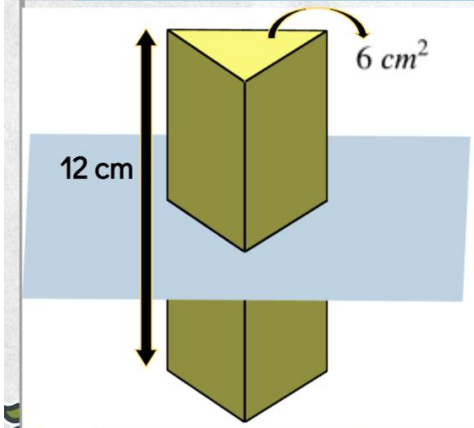

Sort by: Time
6C11 H...
6E26 W...
6C25 T...
qob qbh
Class Roster 0/31
6D23 P...
6E30 W...
6B04 C...
6D16 Ll...
6D24 T...
6E23 T...
6E08 H...
6D04 C...
6B07 C...
6C09 C...
6B22 N...
6E03 C...
6A11 F...
6D03 C...
6D18 L...
6C07 C...
6A26 P...
6C22 S...
6D26 X...
6C18 Ll...
30 of 31 Responses
Closed
Hide Responses
EXIT

解難部份（長方體）


Sort by: Time
qob qbh
Class Roster 0/31
6C11 H...
6C25 T...
6B22 N...
6D24 T...
6D18 L...
6A01 A...
6A11 F...
6C28 ...
6D04 C...
6D03 C...
6C09 C...
6E30 W...
6E23 T...
6C22 S...
6E26 W...
6B16 L...
6B04 C...
6C07 C...
6D16 Li...
6B02 C...

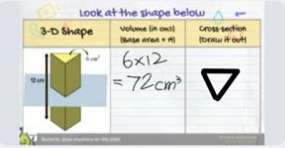
解難部份（三角柱體）

Look at the shape below

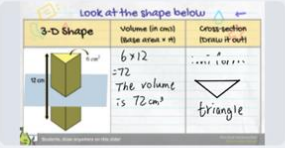
3-D Shape	Volume (in cm3) (Base area × H)	Cross-section (Draw it out)
		

Students, draw anywhere on this slide!

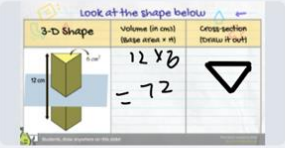
Pear Deck Interactive Slide
Do not remove this bar



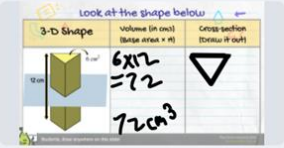
6D24 T...



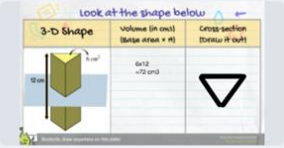
6E23 T...



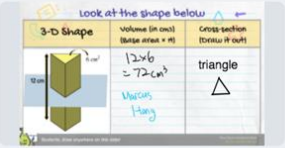
6D04 C...



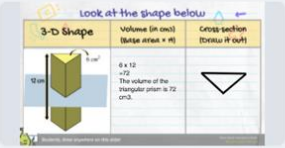
6C11 H...



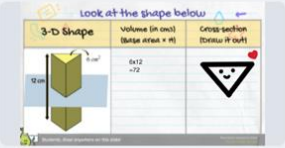
6C25 T...



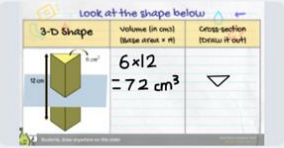
6E08 H...



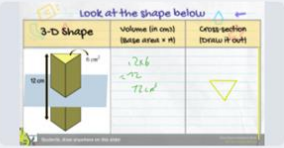
6C07 C...



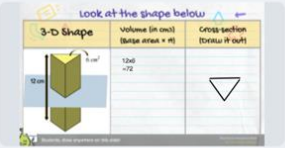
6D18 L...



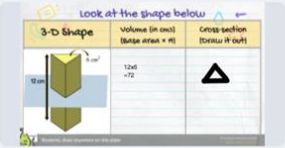
6D03 C...



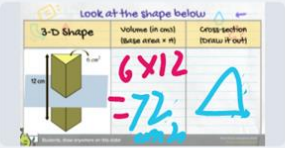
6B04 C...



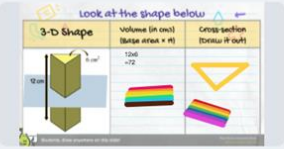
6C23 S...



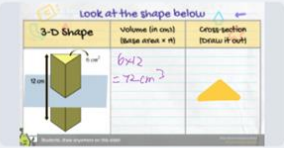
6D26 X...



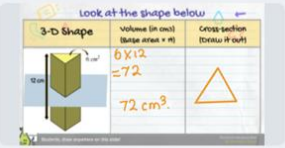
6C22 S...



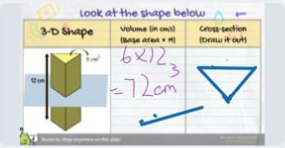
6A11 F...



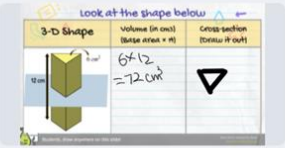
6D16 Ll...



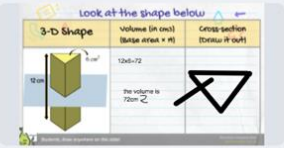
6D23 P...



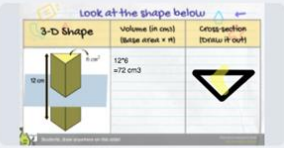
6B22 N...



6A01 A...



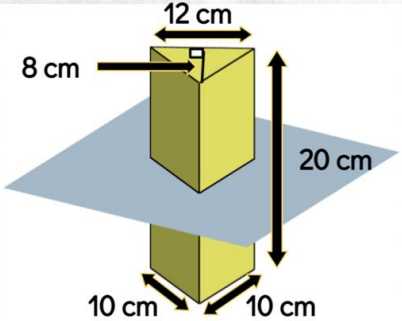
6E26 W...



6B07 C...

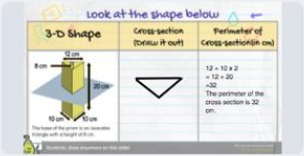
解難部份（三角柱體2）

Look at the shape below

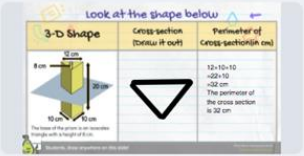
3-D Shape	Cross-section (Draw it out)	Perimeter of Cross-section(in cm)	Area of the cross-section (in cm2)	Volume (in cm3) (Base area × H)
 The base of the prism is an isosceles triangle with a height of 8 cm.				

Students, draw anywhere on this slide!

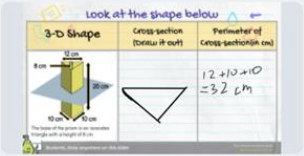
Pear Deck Interactive Slide
Do not remove this bar



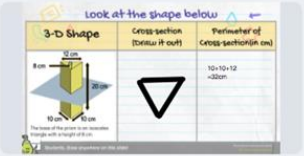
6C07 C...



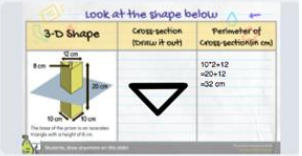
6E30 W...



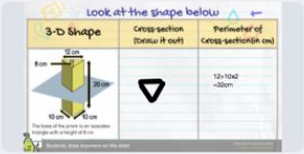
6C09 C...



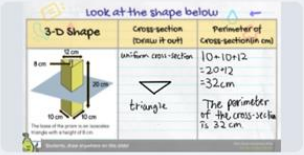
6D24 T...



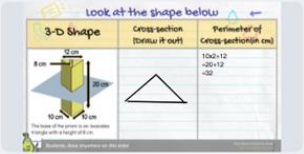
6B07 C...



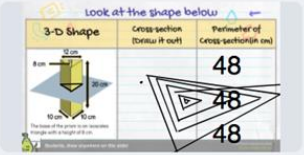
6C18 Ll...



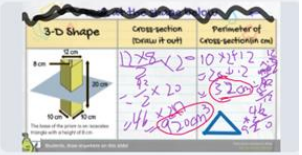
6E23 T...



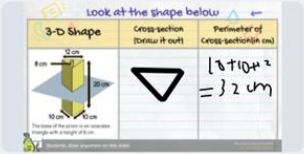
6C23 S...



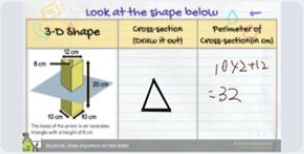
6A11 F...



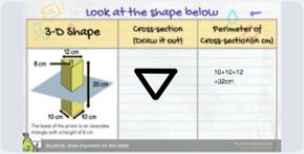
6B22 N...



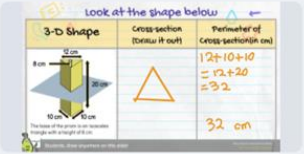
6A16 K...



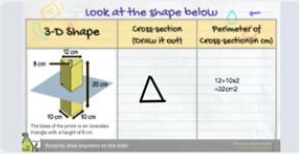
6E08 H...



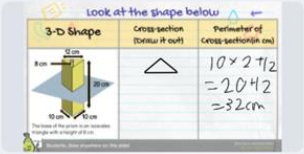
6D26 X...



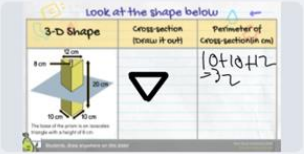
6D23 P...



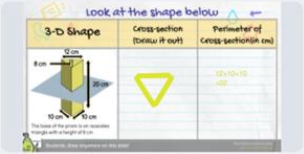
6E03 C...



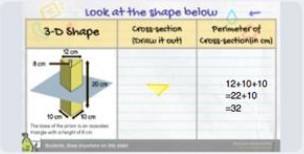
6B02 C...



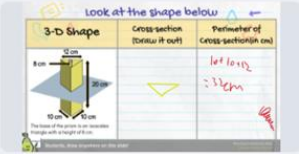
6C11 H...



6B16 L...

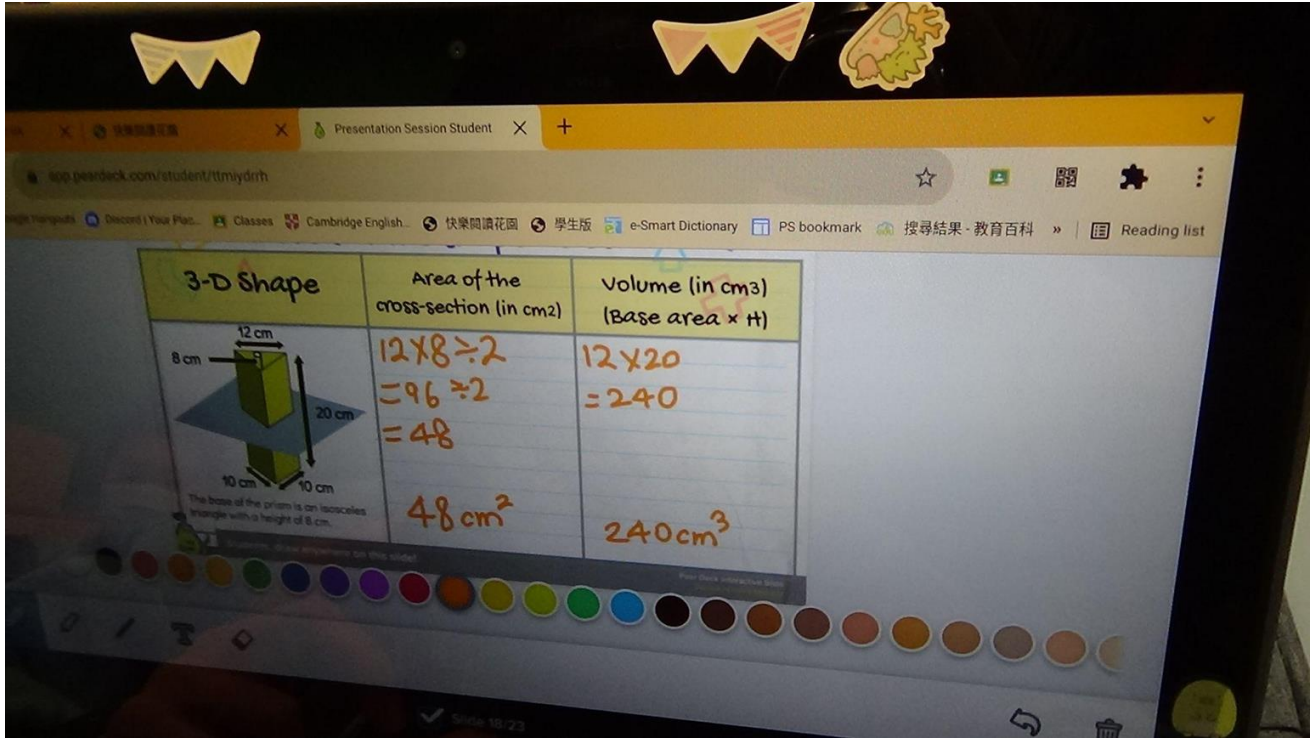


6B26 ...

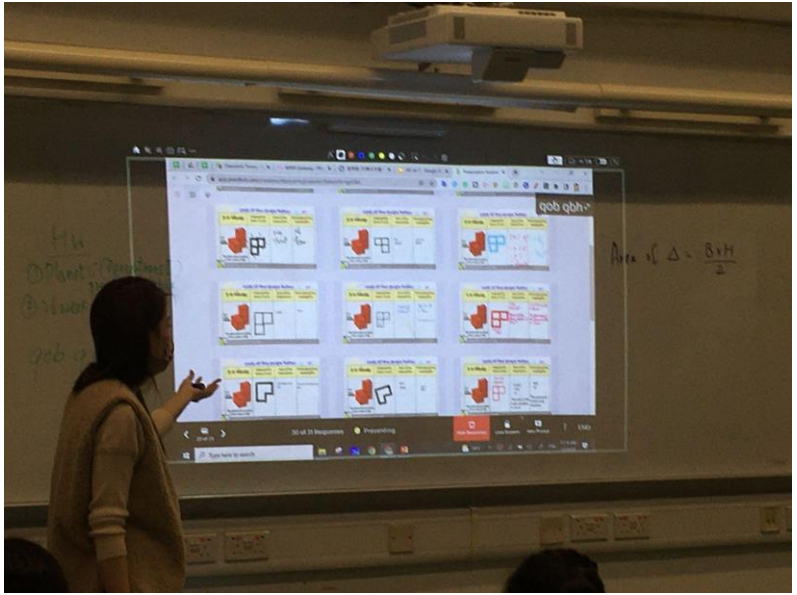


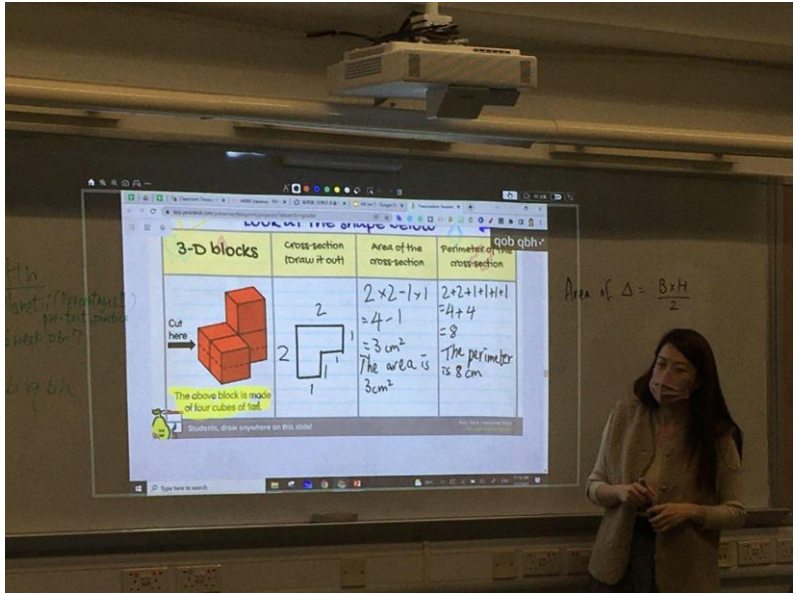
6B04 C...

解難部份（三角柱體2）


Presentation Session Student
app.pear deck.com/student/ttmiydrrh
Classes
Cambridge English...
快樂閱讀花園
學生版
e-Smart Dictionary
PS bookmark
搜尋結果 - 教育百科
Reading list
3-D Shape
Area of the cross-section (in cm2)
Volume (in cm3) (Base area × H)
12 cm
8 cm
20 cm
10 cm
10 cm
12×8÷2
=96÷2
=48
48 cm²
12×20
=240
240cm³

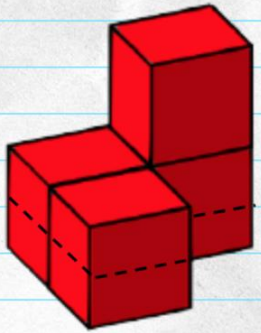
進階題型討論（不規則圖形）





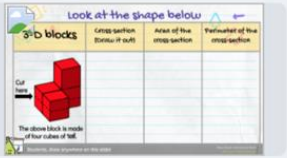
進階題型討論（不規則圖形）

Look at the shape below

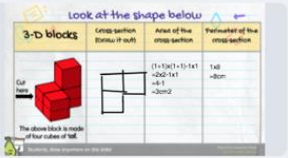
3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
Cut here  The above block is made of four cubes of 1cm³.			

Students, draw anywhere on this slide!

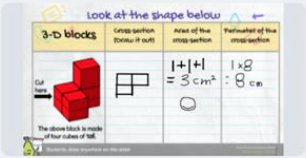
Pear Deck Interactive Slide
Do not remove this bar



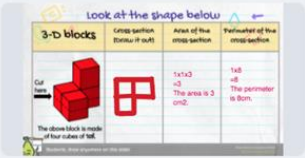
6B22 N...



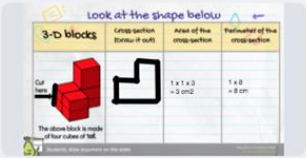
6C23 S...



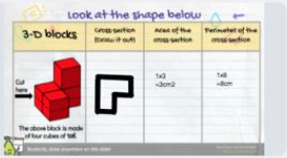
6D03 C...



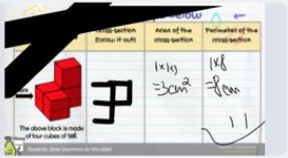
6B16 L...



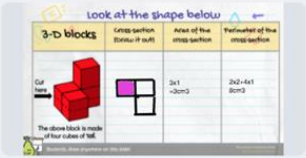
6C28 ...



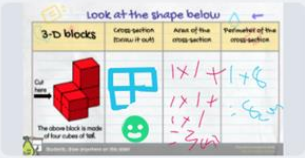
6C18 Ll...



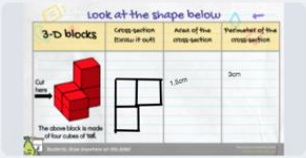
6A01 A...



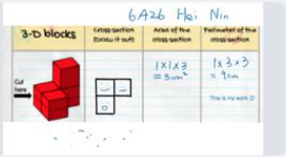
6E03 C...



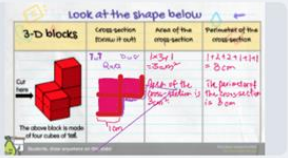
6C22 S...



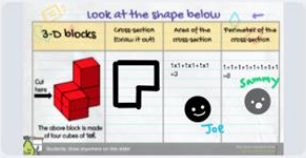
6C07 C...



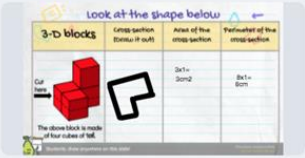
6A26 P...



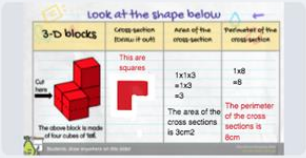
6D16 Ll...



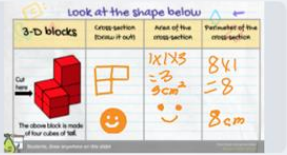
6D18 L...



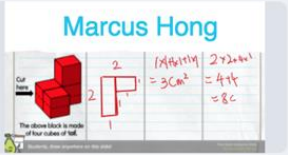
6D24 T...



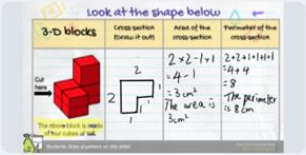
6B26 ...



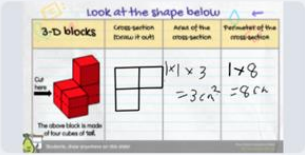
6D23 P...



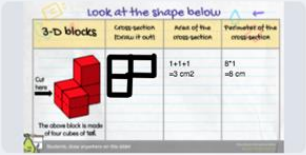
6E08 H...



6E23 T...

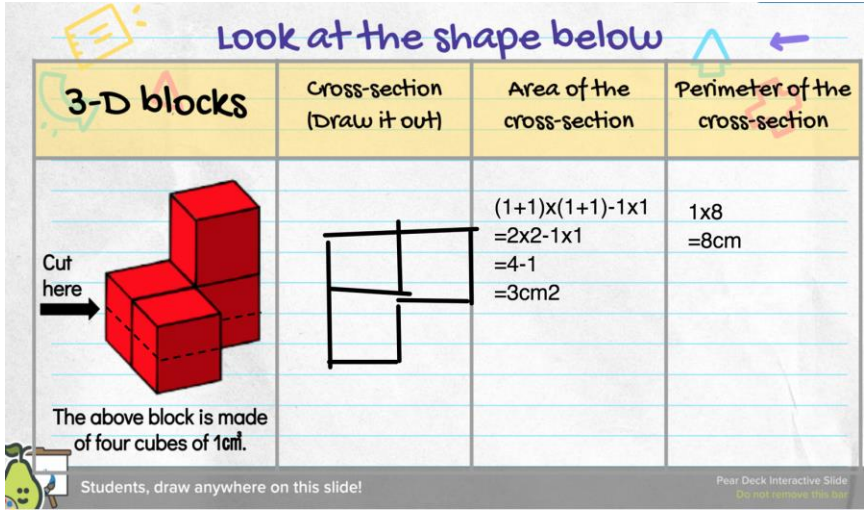


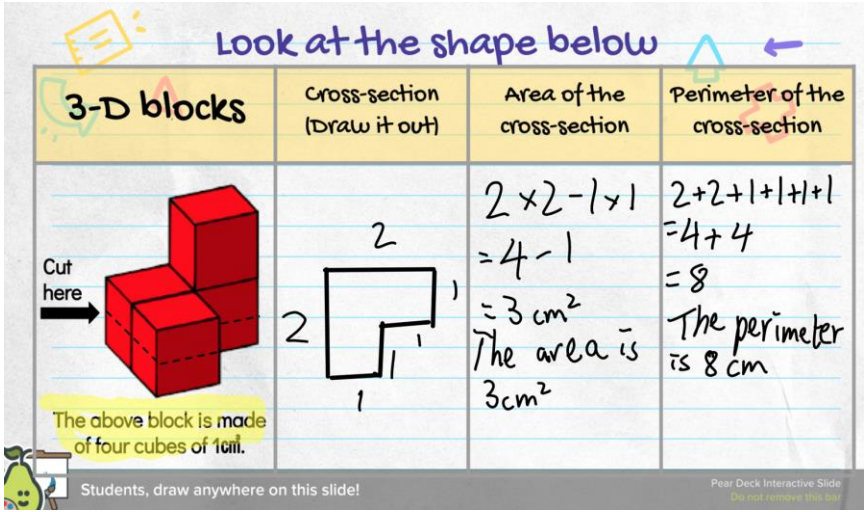
6B02 C...



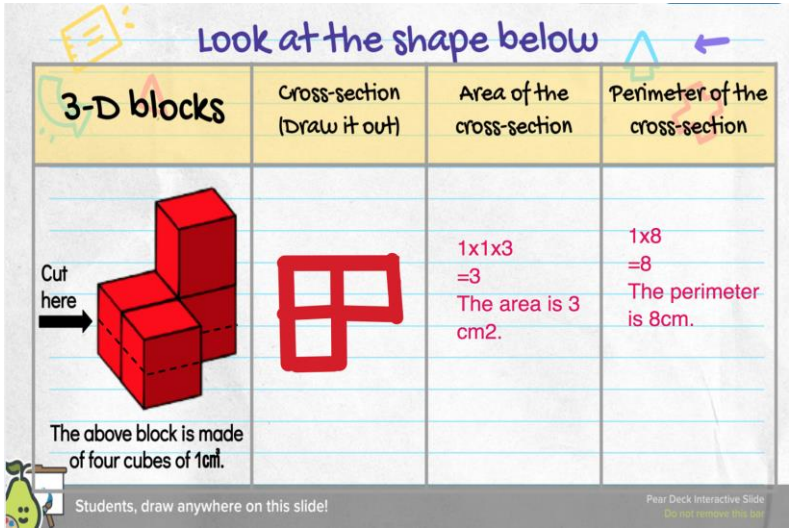
6B07 C...

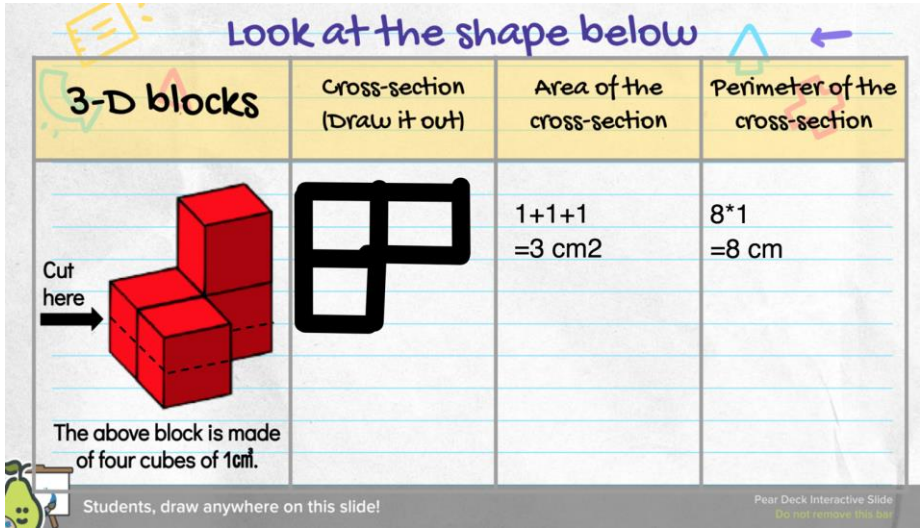
填補法
Filling method

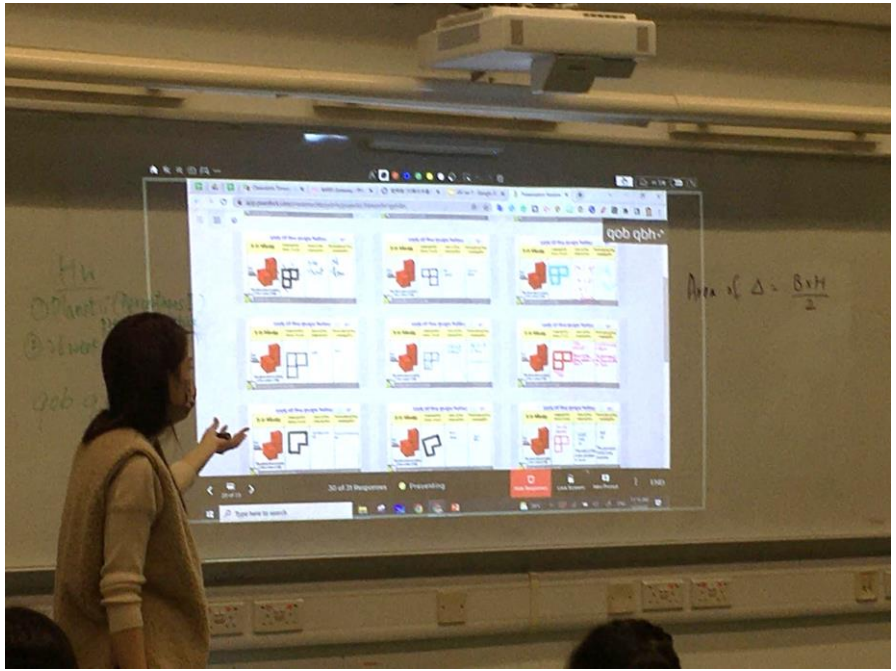


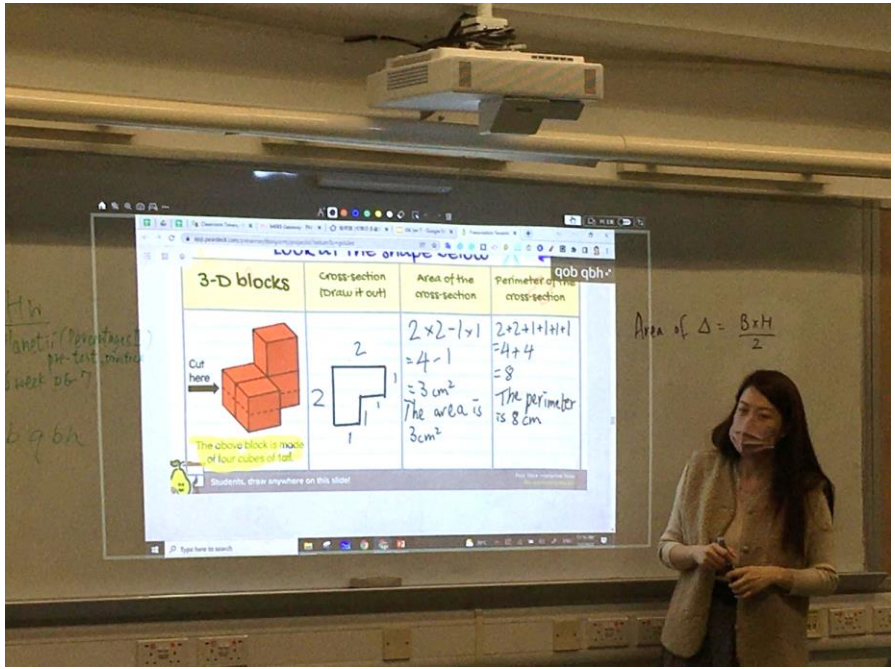


分割法
Dissect method



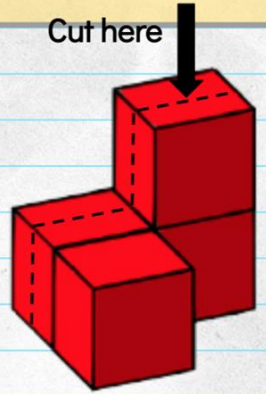



qob qbh
Area of Δ = B×H / 2


3-D blocks
Cross-section (Draw it out)
Area of the cross-section
Perimeter of the cross-section
Cut here
The above block is made of four cubes of tall.
2
2
1
1
1
2×2-1×1
=4-1
=3 cm²
The area is 3cm²
2+2+1+1+1+1
=4+4
=8
The perimeter is 8 cm
Students, draw anywhere on this slide!
qob qbh
Area of Δ = B×H / 2

進階題型（不規則圖形）

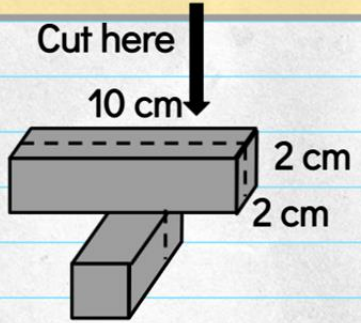
Look at the shape below

3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
Cut here  The above block is made of four cubes of 1cm³.			

Students, draw anywhere on this slide!

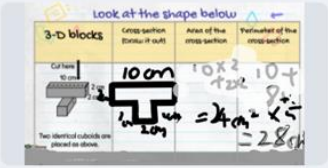
Pear Deck Interactive Slide
Do not remove this bar

終極進階題型（不規則圖形）

3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
 Two identical cuboids are placed as above.			

進階題型討論

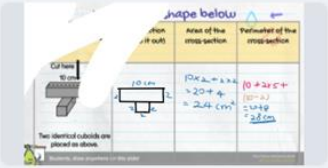
進階題型



6A16 K...

6B26 ...

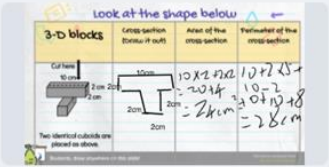
6D16 LI...



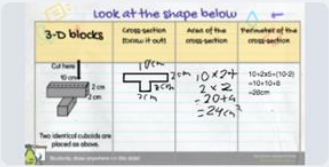
6A26 P...

6B04 C...

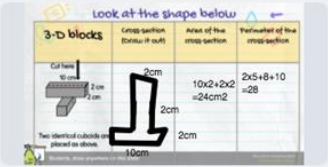
6C18 LI...



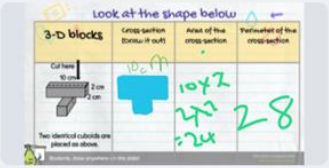
6C09 C...



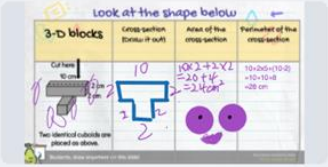
6B02 C...



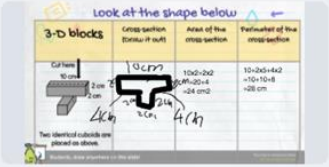
6C25 T...



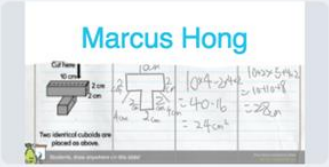
6C22 S...



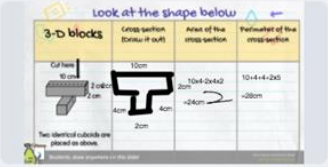
6B22 N...



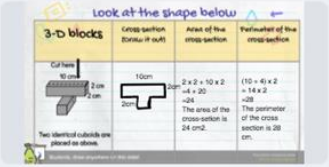
6E30 W...



6E08 H...

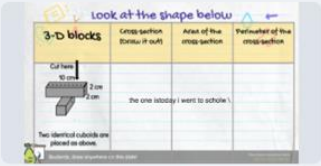


6E26 W...

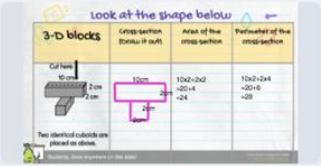


6C07 C...

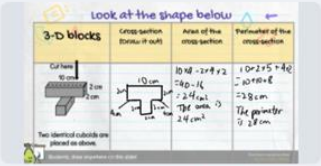
進階題型



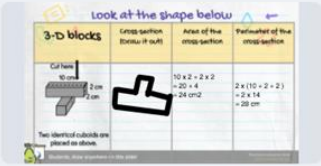
6D04 C...



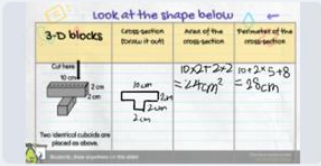
6E03 C...



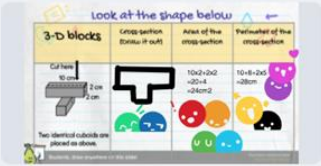
6E23 T...



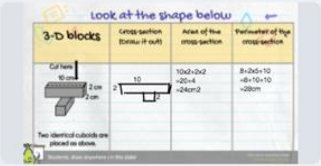
6C28 ...



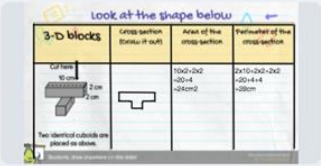
6D24 T...



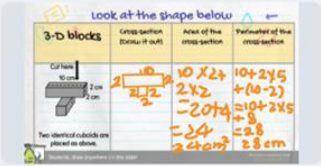
6D18 L...



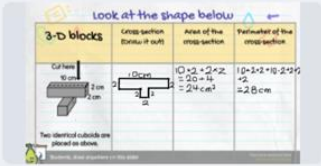
6C23 S...



6D26 X...



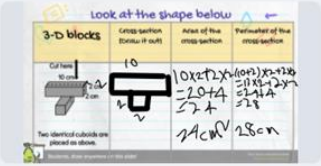
6D23 P...



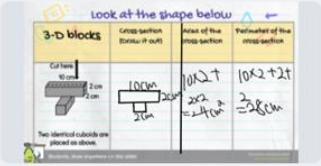
6D03 C...

Deleted Response

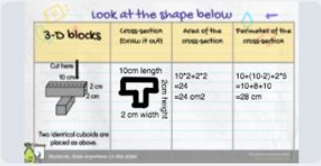
6A11 F...



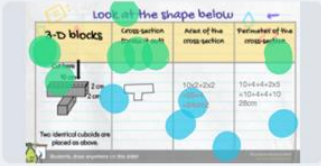
6C11 H...



6A01 A...

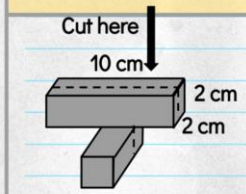
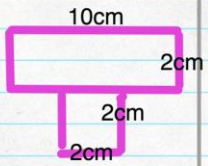


6B07 C...



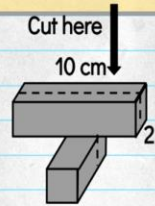
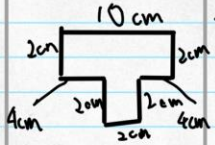
6B16 L...

進階題型

3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
 Two identical cuboids are placed as above.		10x2+2x2 =20+4 =24	10x2+2x4 =20+8 =28

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
 Two identical cuboids are placed as above.		$10\times4-2\times4\times2$ $=40-16$ $=24\,cm^2$ The area is $24\,cm^2$	$10+2\times5+4\times2$ $=10+10+8$ $=28\,cm$ The perimeter is 28 cm

Students, draw anywhere on this slide!

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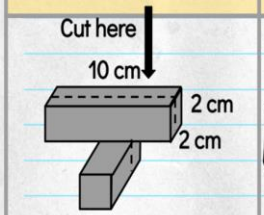
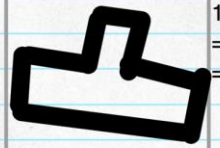
進階題型

3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
 Two identical cuboids are placed as above.		10 x 2 + 2 x 2 = 20 + 4 = 24 cm2	2 x (10 + 2 + 2) = 2 x 14 = 28 cm

Students, draw anywhere on this slide!

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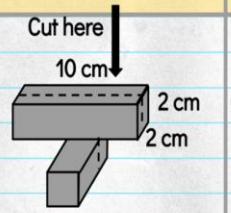
3-D blocks	Cross-section (Draw it out)	Area of the cross-section	Perimeter of the cross-section
 Two identical cuboids are placed as above.		10x2+2x2 =20+4 =24cm2	10+8+2x5 =28cm

Students, draw anywhere on this slide!

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自評

Self-evaluation

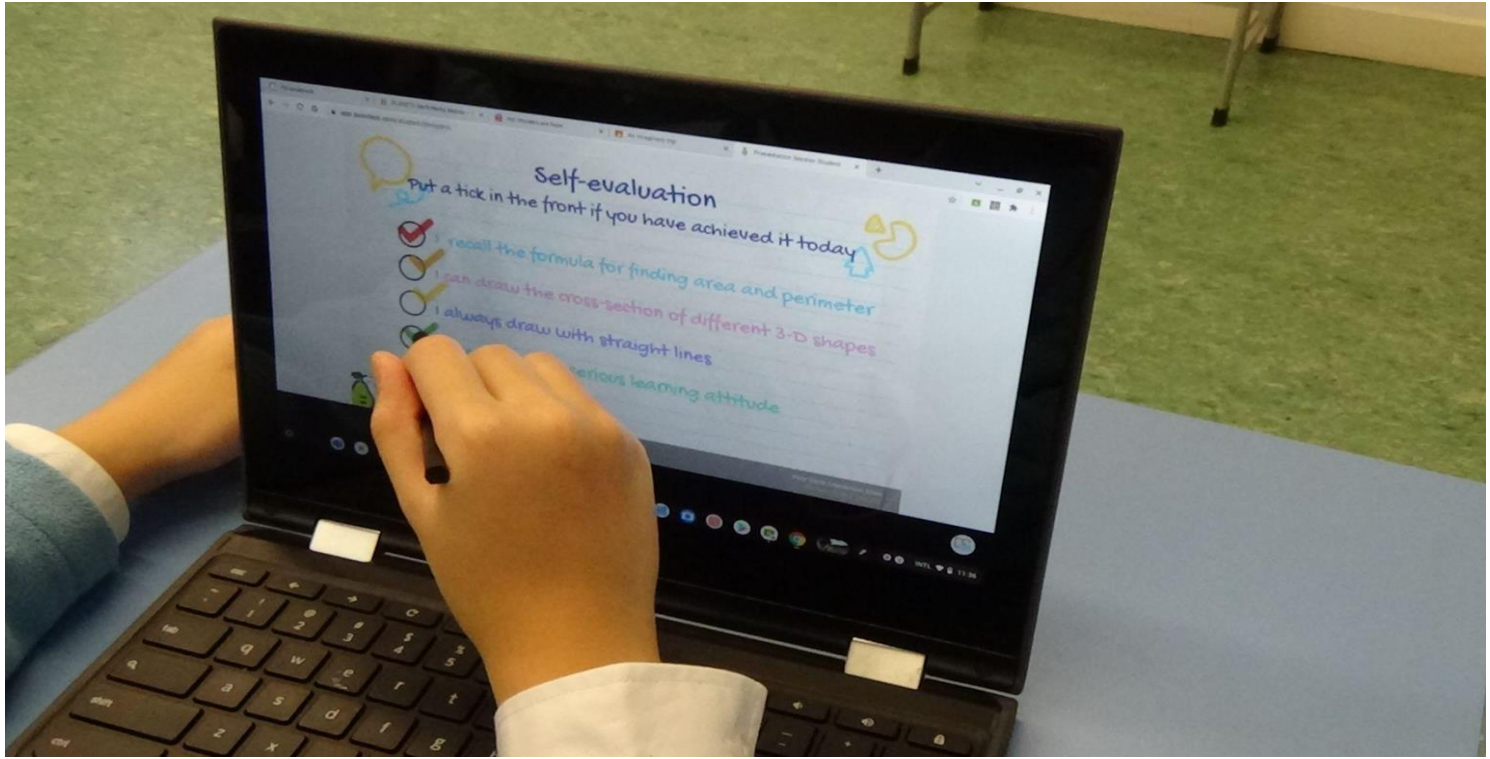
Put a tick in the front if you have achieved it today

- ◯ I recall the formula for finding area and perimeter
- ◯ I can draw the cross-section of different 3-D shapes
- ◯ I always draw with straight lines
- ◯ I demonstrate a serious learning attitude

Students, drag the icons!

Pear Deck Interactive Slide
Do not remove this bar

自評


Self-evaluation
Put a tick in the front if you have achieved it today
I recall the formula for finding area and perimeter
I can draw the cross-section of different 3-D shapes
I always draw with straight lines
serious learning attitude

檢討

運用電子工具 Peardeck

全部同學純熟運用Peardeck 電子工具，打字，畫圖形都表現良好，能清楚表達數式及投入課堂學習活動。

老師適時介入

透過Peardeck平台，因應同學前測及做堂課時每題的回應，作出適時介入及回饋。

檢討

跨課題學習

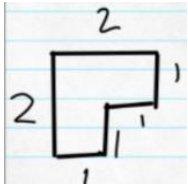
普遍學生對截面、周界、面積及體積的有清晰的概念以致能活用公式；少數學生計錯數及遺忘周界、面積單位，需老師提點。

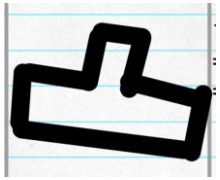
備課困難

繪畫立體圖形有一定困難，未能在教學資源網站上找到相應圖形，需自行繪製。

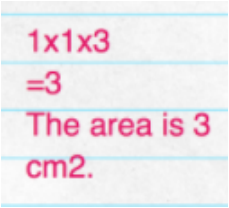
延伸討論

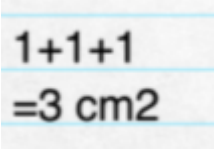
畫截面





解題列式、步驟





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Hong Kong Baptist University Affiliated School
Wong Kam Fai Secondary and Primary School

THANKS!

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