Building Tents
建造帳篷

Come in out of Nature

Our Grade 6 students imagined that they were chief designers for a housing project. They learned that when engineers design an object, they usually start by making a drawing. They learned that a line has one dimension, length. A flat object has two dimensions, length and width, and an object has three dimensions, length, width, and height. When engineers make a model, they represent each part of the three-dimensional object in two dimensions. Then they assemble their 2D pieces to make a 3D model.

Task

The students had to design and build a 3D tent, using 2D patterns. Then they had to assemble the 2D patterns around a 3D frame to make a 3D tent. The tents had three requirements. It had to be light, strong, and waterproof. At the end, they tested their tents for those three requirements.

Conclusion

The students enjoyed this very hands-on project, very much and could not wait to get to class every day, to work on their tents. They came up with very creative designs, and learned a lot about how to design and assemble two dimensional patterns and then make it fit properly into a three dimensional object. We are looking forward to see what they will come up with during next term's project. Well done!

走進帳篷的世界

六年級學生想像他們是建築設計總監。他們了解當工程師設計物件時，通常會先畫設計圖。學生們也學到一條線只有一個維度，即長度。平面則有兩個維度，即長度和寬度，而立體則有三個維度，即長度、寬度及高度。當工程師製作模型時，他們會將立體轉換為平面，再把平面零件組裝成立體模型。

實作課程

學生必須運用 2D 圖案來設計及建造 3D 帳篷。他們利用 3D 結構概念繪製出 2D 平面圖，並以此製作 3D 帳篷。設計出來的帳篷有三個要求，必須輕便、穩固及防水。學生們最後以此為測試標準。

結論

學生們非常喜歡這次的實作專題，他們每天都期待來上課，並製作自己的帳篷。他們也提出非常有創意的設計方案，學習了許多關於設計及組裝 2D 平面圖來製作 3D 帳篷的知識。期待下一個專題，學生會出現什麼有趣的想法。

1 ASK + IMAGINE 提問 + 創思 2
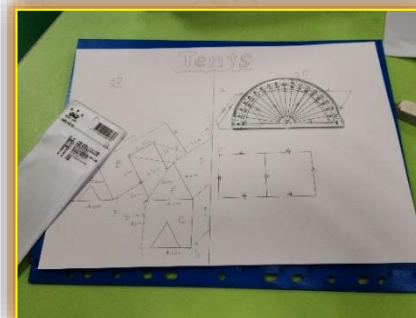
What type of tent are we going to build?
我們想要建造什麼樣的帳篷？

3 PLAN 計畫

Are we using the right shapes for our tents?
我們帳篷的形狀正確嗎？

5 IMPROVE 改進

After improving our tent, it is now perfect.
改進後的帳篷非常完美。

4 CREATE 創造

How are we going to make our patterns fit over our frames?
如何讓圖案符合帳篷的支架？

6 PRESENT 展現

Students hard at work, writing their reports to reflect their learning!
學生們認真撰寫回饋報告！