

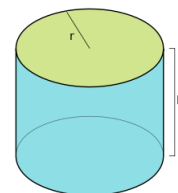
The Cookie Crumbles!

Topic: Area & Volume
Moving from 2D area of a disc to 3D volume of a cylinder.

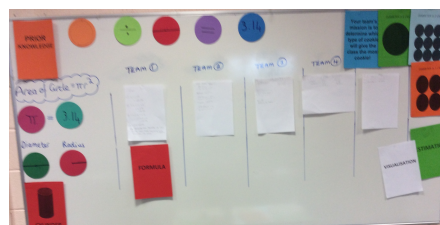
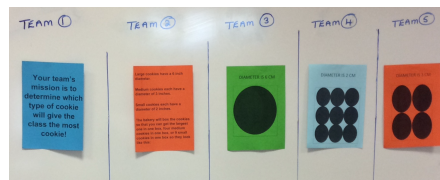
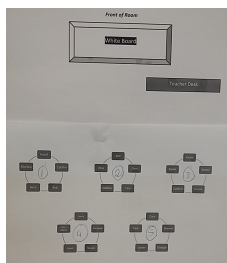
Year Group: 2nd Year
Level: Higher

Presenting the Problem

Large cookies have diameter of 6 units. Medium cookies each have a diameter of 3 units. Small cookies each have a diameter of 2 units. The bakery can box the cookies so that you can get either: one large cookie, four medium cookies in one box, or small cookies in one box. Your team's mission is to determine which type of box contains the most amount of cookie.



The Board Plan



Prior Knowledge & Posing the Task
7 minutes



Students working on the problem
14 minutes



Presentation of Solutions & Ceardaíocht
16 minutes



Summing up & Reflection
3 minutes

Reflecting on the Learning

All students quickly recognised the need to use the formula of the area of the circle to choose the biggest cookie. The students were slow to move beyond use of calculation to solve. As part of Ceardaíocht, one student mentioned the use of estimation as a means of selecting the most amount of cookie. This opened a discussion on the use and importance of estimation in solving problems. The students played more freely with the second task. They explored the building of the cookie stack and measured the stack enthusiastically. Students grasped the need to measure the height and most students used the formula to find area of the cookie. However, only one group successfully formulated the volume of cookie stack. On reflection, I believe the other groups were very close to completing the task but showed an almost fear to be wrong. This seems to be a cultural trait within the class group.



Developed by Grainne McGrath and Eddrina White, with thanks to Tracia Nolan MDT and the students from Presentation SS,

To download this lesson plan visit www.projectmaths.ie/mc2017

