

14

4.2.1 How can I enlarge a shape?



Enlarging Two-Dimensional Shapes

Mascot Project

MYSTERY MASCOT : Jeremy and Julie are part of the spirit club at CPM Middle School. They have permission to paint a mural of their school mascot on the wall of the gym. To make it look right, they have decided to cut up a small picture of the mascot. They will then enlarge each of the pieces and put them together to form a larger model of the mural. But they need your help!

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2. Mas
Grid
Eye
From
Win
Hor

completed as a class

V to make bigger

(cm)

1. Get a piece of the original picture of the mascot and an enlargement grid from your teacher. Draw your section of the mural so that it fills the large grid yet still looks the same as the part of the original picture on your piece. Work with your team members to ensure that everyone's drawings are as accurate as possible.

When all parts of the enlargements are completed, work with your class to put them together to make a paper model of the mascot mural. What is the mascot of CPM Middle School?

2. Work with your class to measure the original and enlarged mascots. Then, share the data and complete a table like the one below.

mascot part	original (cm)	enlarged (cm)

3. Examine the data collected by your class. Look for a way to describe the relationship between parts of the original mascot picture and the enlarged model of the mascot. How much bigger is the enlarged version?

4. Is there any part of the enlarged picture that seems to be the wrong size? How could you check?

Reflection: Why is it necessary that all parts of the original picture grow in the same way? What if, for example, the nose got two times bigger and the eyes got five times bigger? Work with your team to explain what has to happen for the mascot model to keep its shape as it gets larger.



1. The mascot is a dragon.

2. completed as a class

Mascot part	original (cm)	enlarged (cm)
Grid Box	2.4	14.4
Eye	0.2	1.2
Front leg length	5.6	33.6
Wing length	10.3	61.8
Horn (longest)	2.0	4.3