

Answer to iClicker Question #9A (Themes 3)

Increasing the size of anything by 1000x increases its surface area (in fact, any area measurement) by $(1000)^2x$ - this is because the length increases by 1000x and the width increases by 1000x. So the approximate expected increase in area is 1000 x 1000 or 1,000,000-fold. So (C) is the correct answer.

Answer to iClicker Question #9B (Themes 3)

The larger egg will have to exchange more gases per mm^2 than the smaller egg (like the octopus example in lecture on Wednesday). Therefore, there will have to be more holes per mm^2 on the ostrich egg.

So the only correct answer is (1).