**The weight of our atmosphere**

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Many people do not consider that the Earth’s atmosphere has weight. Indeed, our atmosphere is made up of various gasses, the most abundant of which are Nitrogen (78.08%), Oxygen (20.95%) and Argon (0.93%). These and the remaining 0.04% of atmospheric gases and particles, all have mass, and therefore have weight. For this activity, we will compute the weight of the air in this room.

Question: How much does the air in our room weigh?

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| **Required values** | **Equations** | **Conversions and constants** |
| W = \_\_\_\_\_\_\_\_\_\_\_\_ lbsW = \_\_\_\_\_\_\_\_\_\_\_\_ N |  $$F=m∙a$$ | $$1 lb=4.448 N$$$$T\_{K}=273+T\_{C}$$$$1 mb=100 Pa$$$$g=9.8 m s^{-2}$$$$R\_{d}=287 J∙K^{-1}∙kg^{-1}$$$$1 ft=0.3048 m$$  |

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| **Putting it all together** |
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Solution:

Common Core Standards addressed: