

Biophysics Flash Cards


Rebecca D Hogewood, Matthew H Lee & Sharyn A Endow 2022
Aerosols Flash Cards

Duke University
Durham, NC USA

Instructions

Print the flash cards from the templates on pages 2-3. Each page has 4 flash cards.
The concept is on the left side of the template and the explanation is on the right side.

To create individual flash cards:

- 1) Trim the margins on the top, bottom, and sides of the page where you see the scissors icon 
- 2) Cut between the cards where you see the scissors icon to create individual cards.
- 3) Fold the cards in half at the dashed "Fold" line and align the front and back edges of each card.
- 4) Each template makes 4 flash cards of 2.5 x 3.75 inch (H x W). There are 8 cards in a set.

The colored border indicates that the cards are in the same set.

Objectives & Grade Level

Teach students basic concepts about biophysics. Appropriate for middle school to high school students. Students can use the flash cards singly or in groups by studying the cards and testing themselves or others on concepts from the cards.

Acknowledgements

Designed and created as Broader Impacts with support by National Science Foundation Grant #CMMI 1660924 to SAE.

Copyright © 2022 by the Biophysical Society. All rights reserved.

Aerosols



Aerosols

are tiny particles or droplets suspended in air

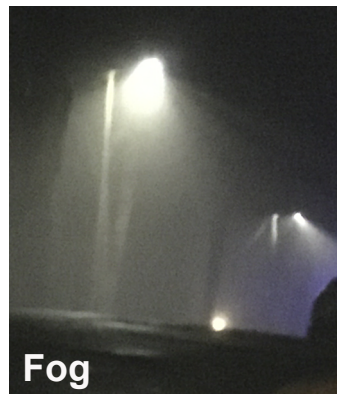


Aerosols in Life



Aerosols

are made by nature & humans



Fog



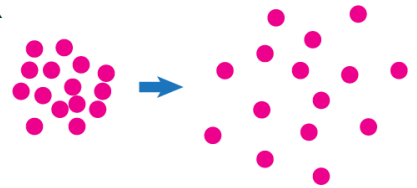
Steam

Aerosols & Diffusion



Aerosols spread by Diffusion

Rapid, back and forth random movement



Aerosols & Convection



Aerosols travel by Convection

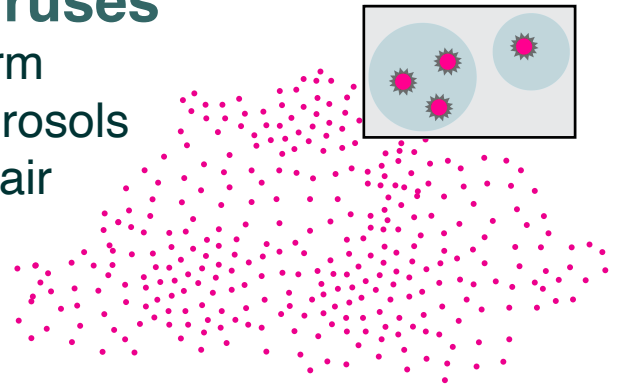
Bulk transport or movement in air

Viruses Form Aerosols



Viruses

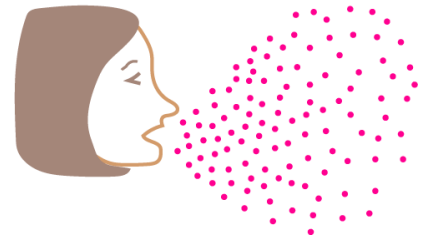
form aerosols in air



Viruses Spread in Aerosols



Viruses are spread by sneezes, coughs, & talking



Viruses Spread in Droplets



Viruses in droplets

travel in air or fall, depending on the force of a sneeze or cough, by **Newton's 2nd Law**

$$F = m a$$

F, Force

m, mass

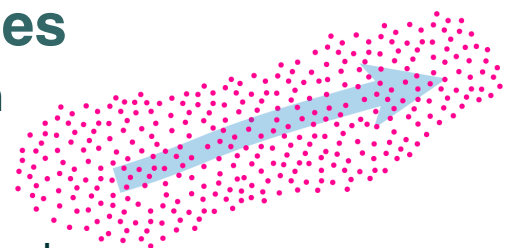
a, gravity constant

Viruses Spread by Convection



Viruses

travel in air by bulk movement



or **Convection**