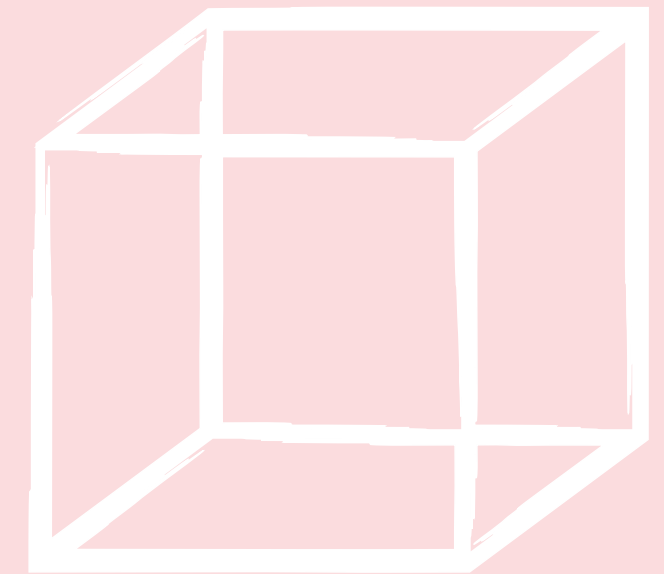


When Assessing the Risk of Infection

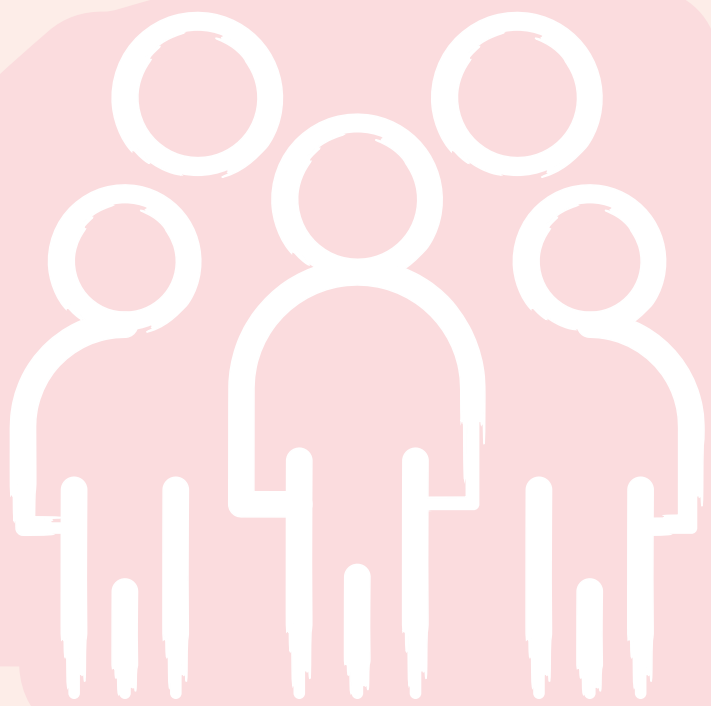
(via respiration)

Consider the Following

the
volume
of the space



the
number
of people in the space



the
duration
of time spent in the space



Something So Sam

In order to get infected you need to get exposed to an infectious dose of the virus.

Based on infectious dose studies with MERS and SARS,

**as few as 1000 SARS-CoV2
viral particles**

are needed for an infection to take hold.

Infection could occur through
1000 viral particles inhaled with 1 breath
100 viral particles inhaled with 10 breaths
10 viral particles inhaled with 100 breaths
etc.

Something So Sam

Sneeze

about 30,000 droplets

Most droplets are small and travel great distances (easily across a room).

Cough

about 3,000 droplets

Most droplets are large, and fall quickly (gravity), but many do stay in the air and can travel across a room in a few seconds.

Breath

about 50 - 5,000 droplets

Most of these droplets are low velocity and fall to the ground quickly. Importantly, due to the lack of exhalation force with a breath, viral particles from the lower respiratory areas are not expelled. Unless you're yelling or singing.

If a person is infected, the droplets in a single cough or sneeze may contain as many as 200,000,000 virus particles which can all be dispersed into the environment around them.

Something So Sam

Social distancing rules are really to protect you
**with brief exposures or
outdoor exposures.**

In these situations there is not enough time to
achieve the infectious viral load when you are
standing 6 feet apart or where

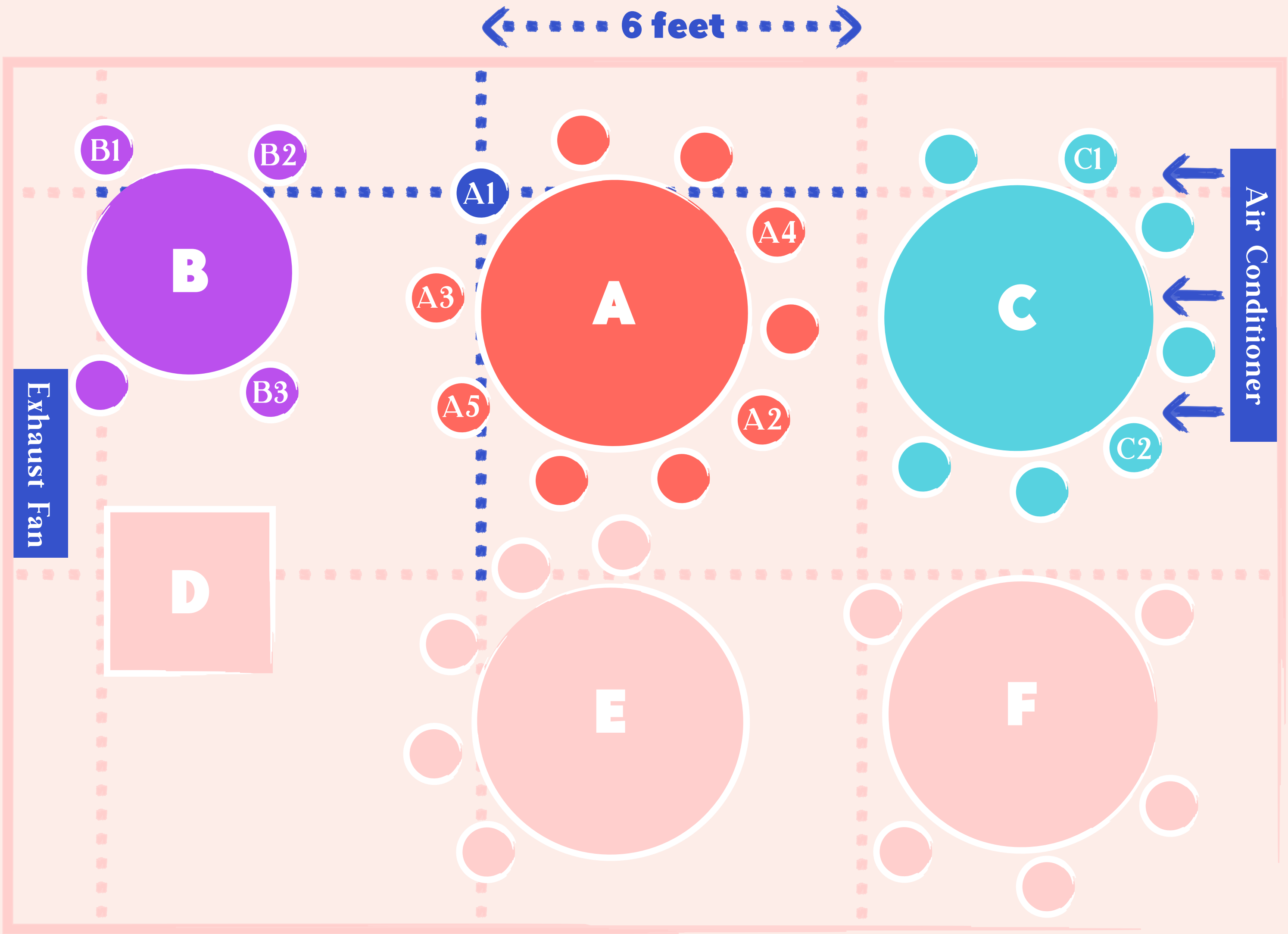
**wind and the infinite
outdoor space for viral
dilution**

(in addition to the effects of sunlight, heat, and
humidity on viral survival)

reduces viral load.

Case Study

COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China, 2020



Source: www.cdc.gov

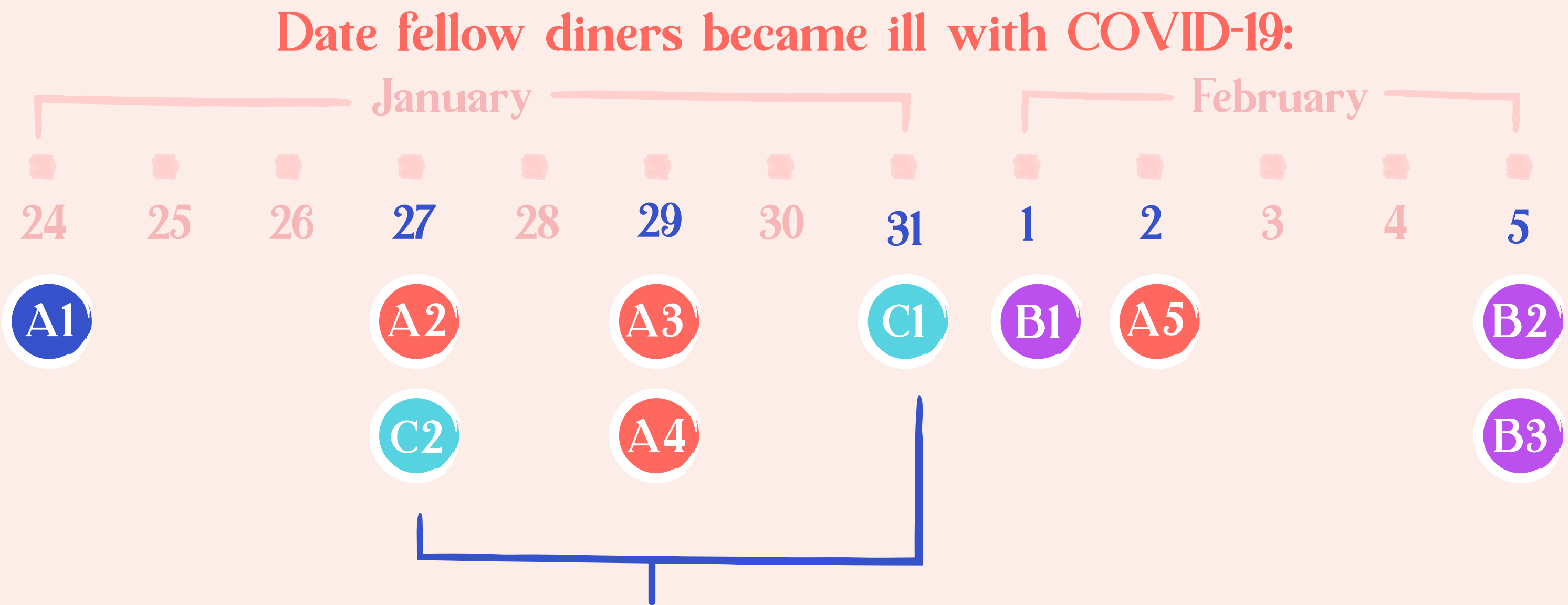
Case Study

The index case-patient had lunch while unknowingly ill and developed a fever later that evening.

Table A dined for about 1.5 hours.

Table B overlapped table A by about 53 minutes.

Table C overlapped table A by about 73 minutes.



Note that people infected at table C were seated well over 6 feet away from the index case-patient.

As states begin to reopen

and we start to venture out more, look at your environment and make judgments.

**How much airflow is there
around me?**

How many people are here?

**How long will I be in this
environment?**

✦ **TL;DR** ✦

**Don't stay in small indoor
areas for too long.**

Even if you're 6 feet apart.

**Especially ones that have
poor air circulation.**

Something So Sam

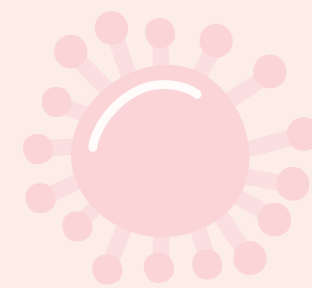
Reminder: Do your part and
**wear a mask to reduce
what you release into the
environment.**



Something So Sam

I WEAR A MASK
TO PROTECT

you



YOU WEAR A MASK
TO PROTECT

me



THINK OF IT IN
TERMS OF PEE. THIS
ANALOGY ISN'T 100%
ACCURATE, BUT I
HOPE IT HELPS!

Something So Sam