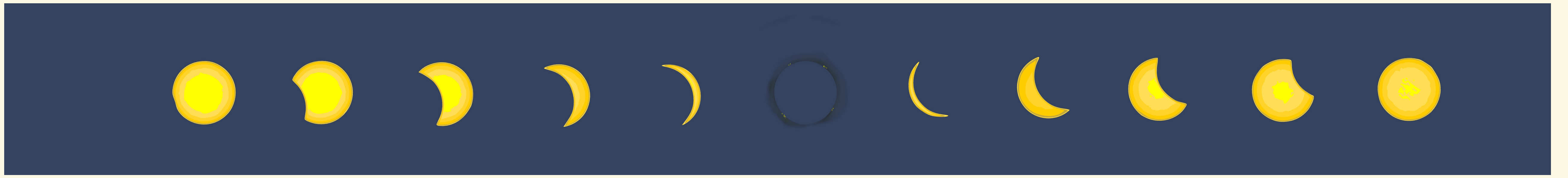


Eclipse



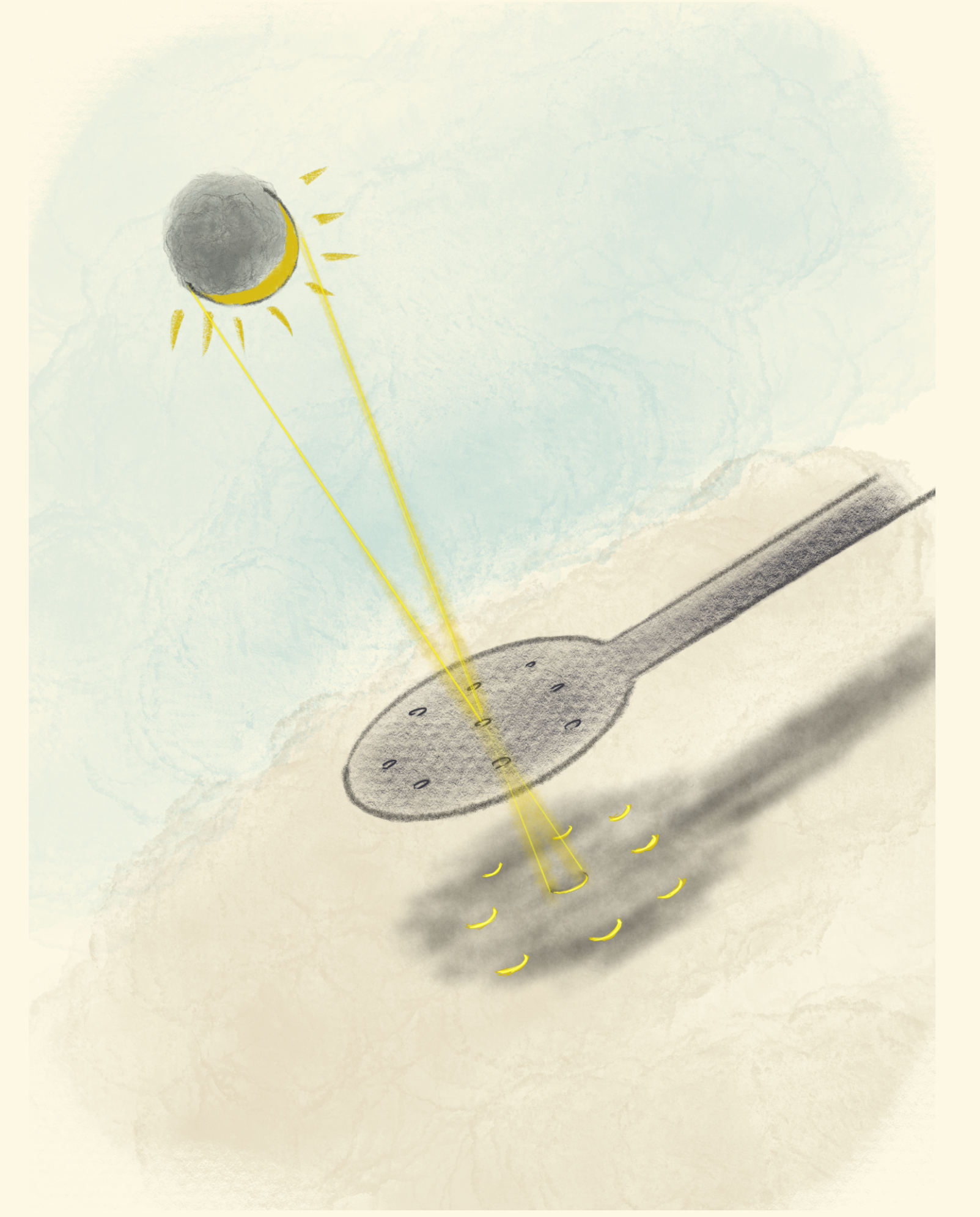
A solar eclipse is coming! On 26 December 2019 the moon will pass directly between the earth and the sun.

At a given location on earth, this happens on average just once in 140 years!

Looking up at the sun directly, *even* during an eclipse, will damage your eyes. So look down instead and see its projection on the ground, through tree leaves!



Or through a karandi or colander.

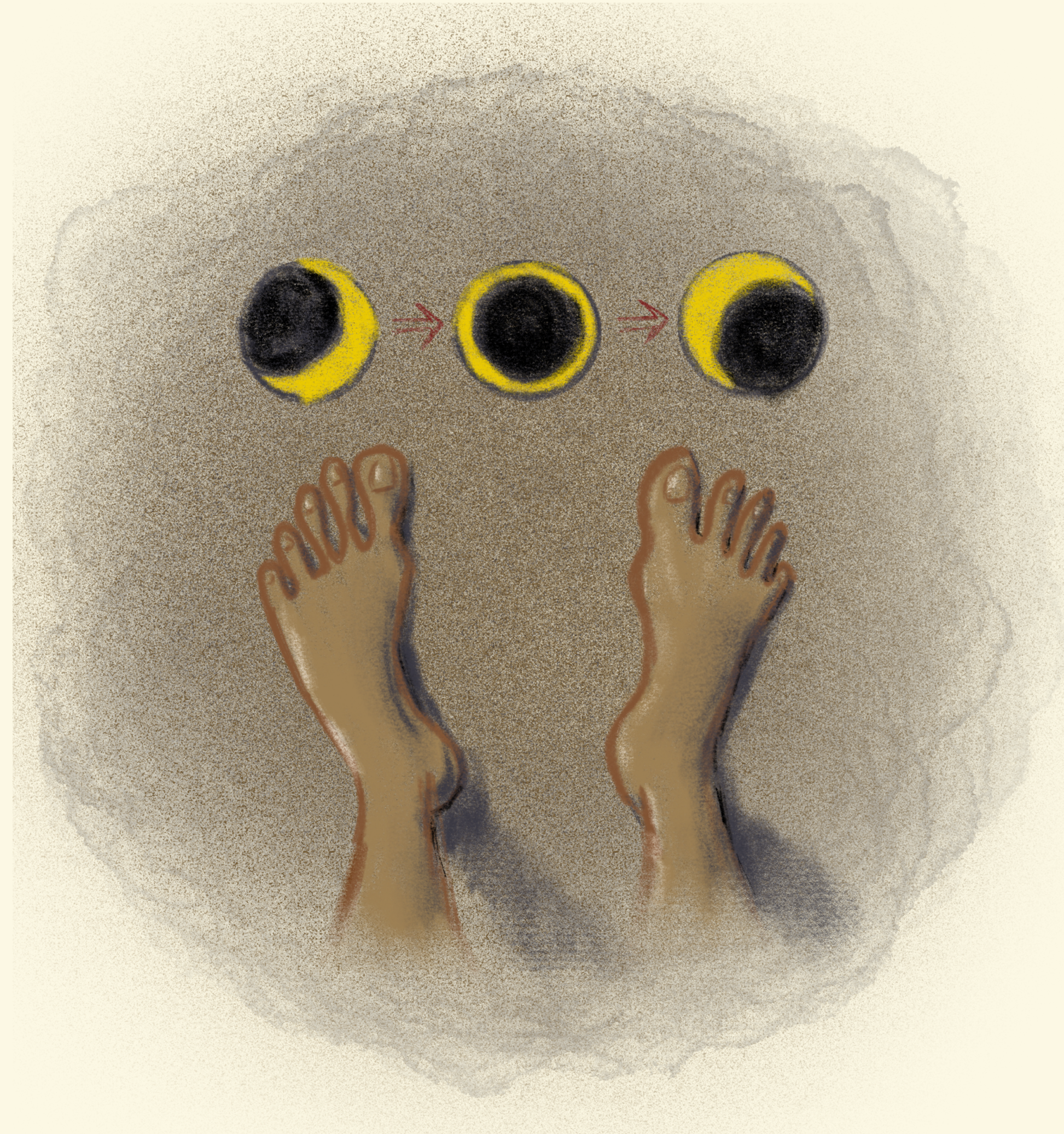


The gaps between the leaves form tiny holes in the tree cover that act like many pinhole cameras. The holes in the karandi do the same thing!

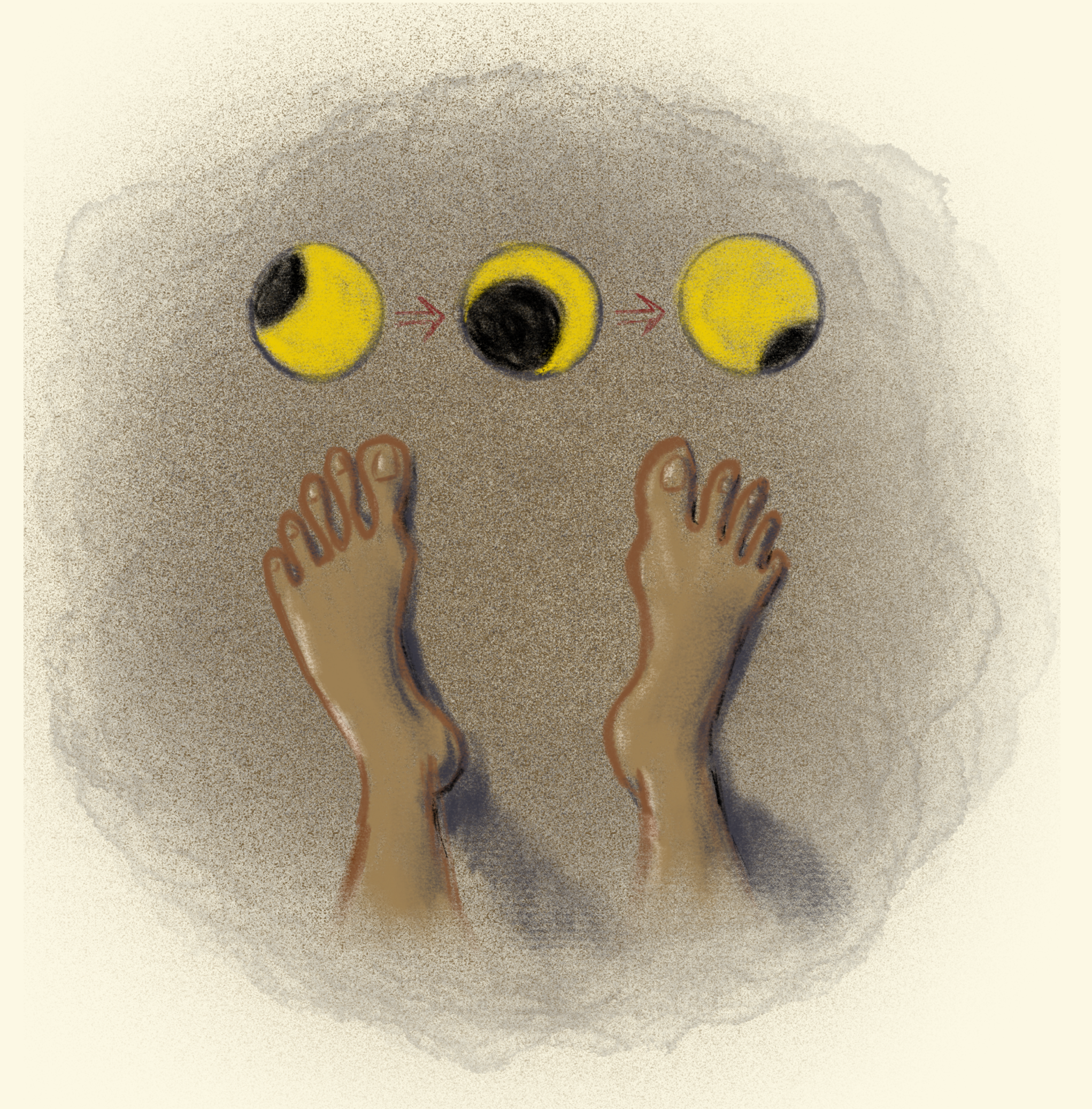
A solar eclipse is visible when the moon completely or partially covers our view of the sun.



When the moon passes directly in front and the moon is at its largest, we get a **total** solar eclipse, during which the moon completely covers the sun!



When the moon passes perfectly in front of the sun, but the moon appears slightly smaller than the sun and we get an **annular** eclipse, which will happen on 26 December 2019. This happens because the moon's orbit is elliptical and its apparent size varies throughout the year.



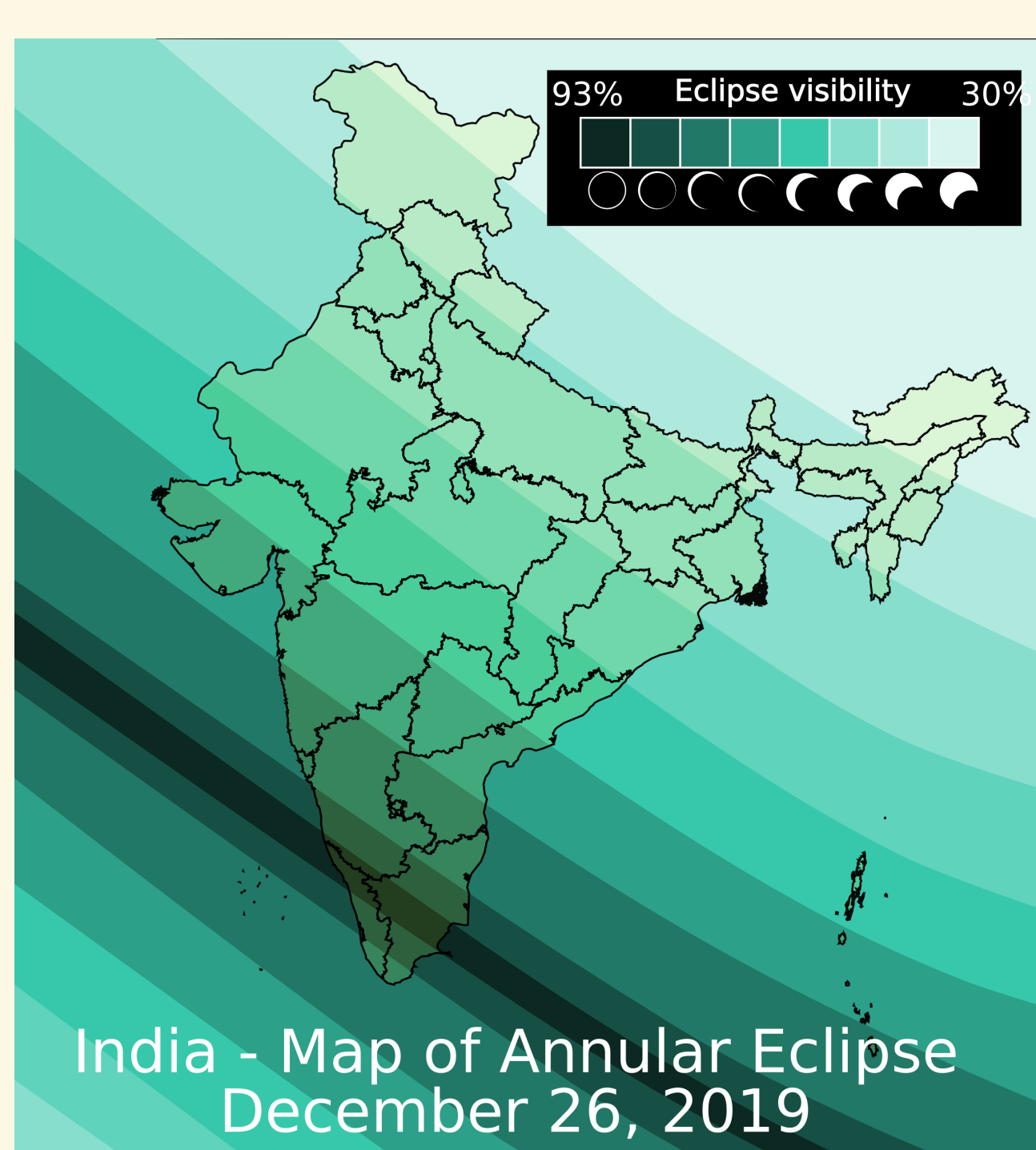
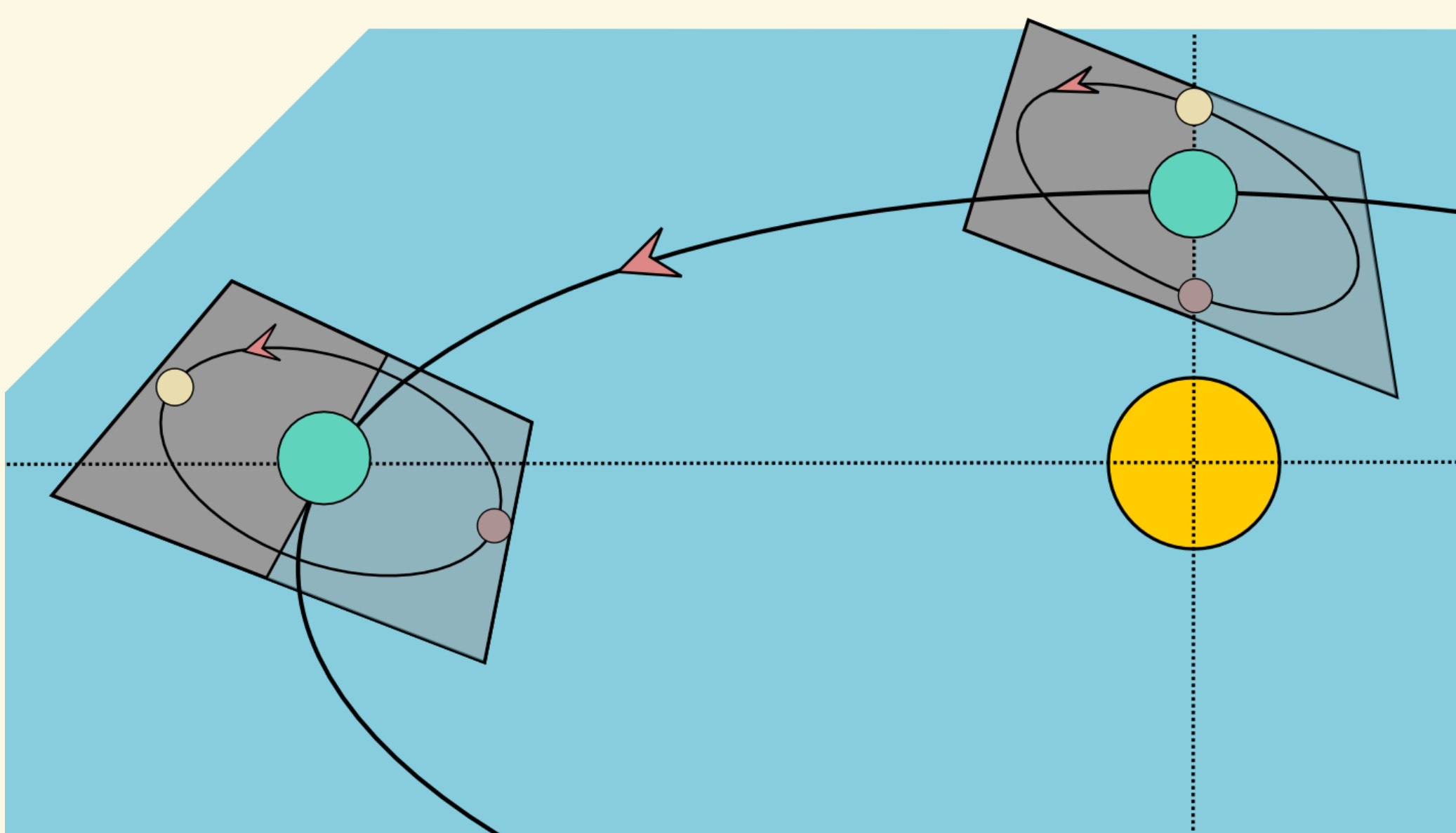
Where you are on the earth also matters! If you are in a location that is not exactly in line with the moon and the sun, the moon will pass in front of the sun but off center, only partially obstructing the sun from view. this is called a **partial** eclipse.

But isn't the sun bigger than the moon?

Yes, the sun is 400 times bigger than the moon, but they appear to be the same size, because the moon is also 400 times closer.

Why don't we see an eclipse every month?

The plane of the moon's orbit around the earth is not the same as the plane of the earth's orbit around the sun, so it happens somewhat rarely that the moon's trajectory in the sky crosses the sun's trajectory



Adapted from Sanu N, Wikimedia Commons



Text/Design: Varuni P
Vijay Ravikumar
Illustrations: Vijay Ravikumar

