

Outcome 2

DIRECTIONS: For each scientist...

- state if they agreed or disagreed with SG
- explain their experiment
- identify how their experiment proved their belief.

*Use pgs. 8-12 for reference

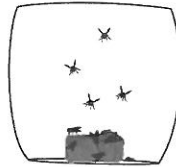
Spontaneous Generation was the theory that living things could appear from non-living things. For example, it was believed that rotting meat created flies and mud created earthworms.

1668



Redi

The Italian scientist Francesco Redi is thought to be the first scientist to conduct experiments using "control" groups.

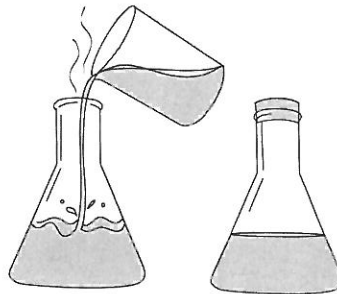


1745



Needham

John Needham was a British biologist and Catholic priest



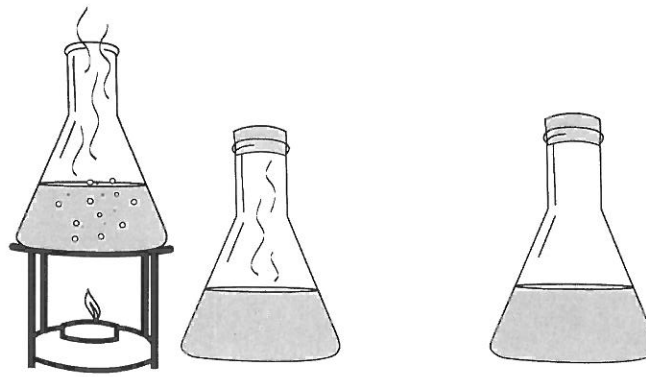
Other scientists pointed out that Needham's flasks were not sterilized, the broth might not have been boiled long enough to kill all bacteria, or bacteria could have entered the flask while the broth cooled.

1768



Spallanzani

The Italian scientist Lazzaro Spallanzani heard of John Needham's experiment, which he felt was poorly done.



John Needham and others criticized Spallanzani's experiment. They argued that there was a magic "life force" in air, that was needed for spontaneous generation to happen. They said Spallanzani had destroyed the magic life force by boiling the broth. They said that when he sealed the flasks he had prevented the magic life force from entering the flask.

Any experiment that was done with flasks that were left open to the air would, of course, result in bacteria growing in the broth. For nearly a century nobody could work out a way to put sterilized broth into a flask, and leave it open to the air without the broth being contaminated. So it was thought to be impossible to prove that spontaneous generation didn't happen. And then along came a brilliant French scientist, Louis Pasteur.

1859



Pasteur

By 1859 experiments done by Pasteur had proven that bacteria existed in air.

