

Intelligent Slime

Japanese biologists investigate the intelligence of *Physarum polycephalum*. In one of their most recent studies, they found that the mould is able to create efficient networks: They put a plasmodium into a Petri dish containing 36 bits of food in an arrangement resembling the geographic locations of Tokyo and its surrounding cities. From the central flake (Tokyo), *Physarum* created a network that was surprisingly similar to the railroad network between those cities, which was developed by engineers and is considered highly efficient.

In the following, you will rerun this experiment. Either set the oat flakes up in a pattern resembling geographic locations of cities surrounding yours using the map provided or other shapes. The result will be visible in the next session.

Material Petri dish with agar and cultivated plasmodium (*Physarum polycephalum*), sterilised oat flakes, map of the railroad network of your area

Conduct Set up the oat flakes on the agar in your pattern of choice.

Put the plasmodium onto the central flake and store the Petri dish in an unlit environment.

Result Describe the result. What happened? How does the plasmodium look?

Do you think this proves the slime mould is intelligent? Give reasons for your opinion.
