

DNA: THE HEREDITARY MODEL

Biology 11

Location of Hereditary Information

- ▶ 1930's biologist Joachim Hammerling used *Acetabularia* to investigate the location of hereditary information
 - ▶ Single-celled, but structurally complex green algae



Location of Hereditary Information

- ▶ Nucleus found in the foot
- ▶ Cut off the cap and found a new cap would regenerate
- ▶ Cut off the foot and foot would not regenerate
- ▶ Concluded that nucleus contained hereditary information
- ▶ Hammerling's experiment:
<https://www.youtube.com/watch?v=tI5KkUnH6y0>

DNA as Hereditary Information

- ▶ Hershey & Chase used bacteriophages to infect bacteria
- ▶ Trial 1: tagged protein coat using isotopes
 - ▶ Isotope not found in next generation of viruses
- ▶ Trial 2: tagged DNA using isotopes
 - ▶ Isotope found on following generations of isotopes
- ▶ Therefore, DNA is the hereditary material

DNA - Hershey & Chase

▶ Animation:

<https://www.youtube.com/watch?v=g9JQURwseIY>