



# MATH BITES

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## RADIOLARIA

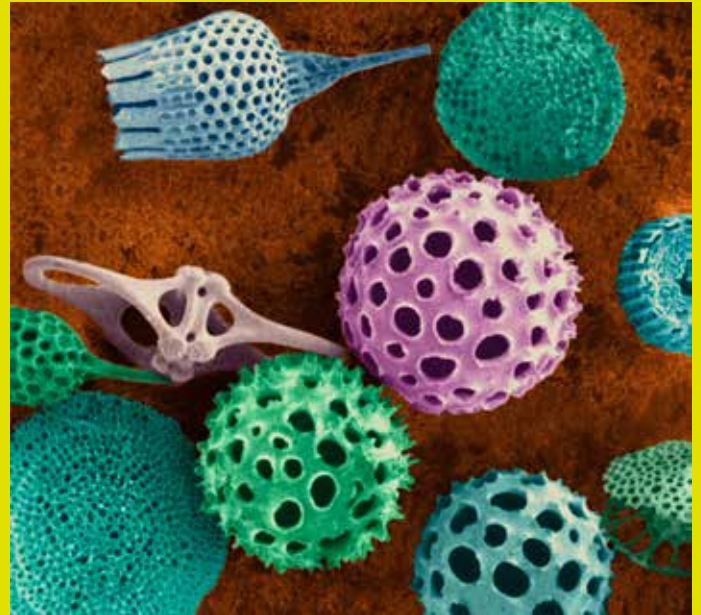
Radiolaria are microscopic protozoa, typically one or two tenths of a millimetre in diameter and widely found as zooplankton.

They first evolved around the early Cambrian era and fossilised forms play an important role in geological dating.

Radiolaria have some pretty cool morphology utilising a wide range of geometric shapes, including polyhedra.

### Activity

Research the web to find images of various radiolaria and see if you can produce similar three-dimensional objects using graphing software.

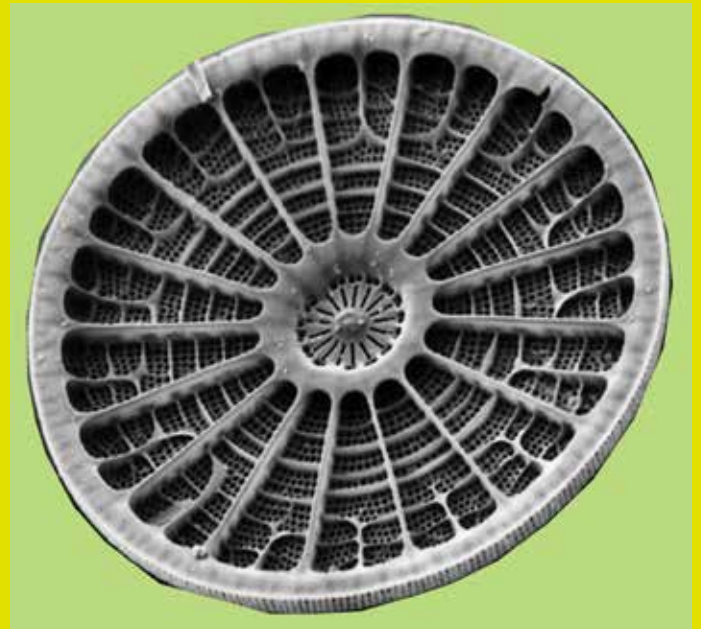


## DIATOMS

Diatoms are microscopic algae phytoplankton, and can be up to 2mm in size. Many of them have essentially a radial symmetry or a bilateral symmetry. They first evolved around the early Jurassic era and their fossilised forms also play an important role in geological dating. Possibly their shape could provide some form of inspiration for science fiction organic looking alien spacecraft in the movies!

### Activity

Develop an evolutionary timeline to highlight some of the different shapes of microscopic and other 'small' life-forms.



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## REFERENCES AND FURTHER READING

### Radiolaria

<http://en.wikipedia.org/wiki/Radiolaria>  
[www.oceanlink.info/biodiversity/radiolaria/radiolaria.html](http://www.oceanlink.info/biodiversity/radiolaria/radiolaria.html)

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### Diatoms

<http://en.wikipedia.org/wiki/Diatom>  
[www.microscopy-uk.org.uk/mag/indexmag.html](http://www.microscopy-uk.org.uk/mag/indexmag.html)  
[www.microscopy-uk.org.uk/mag/artfeb05/cbdiatoms.html](http://www.microscopy-uk.org.uk/mag/artfeb05/cbdiatoms.html)  
[http://en.wikipedia.org/wiki/Geologic\\_time\\_scale](http://en.wikipedia.org/wiki/Geologic_time_scale)  
<http://exploringorigins.org/timeline.html>  
Image retrieved from <http://osp.mans.edu.eg/abuzied/Micropaleontology.htm>