

A-maiz-ing

The Science of Popcorn

A-maiz-ing
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Introduction

This resource has been designed to support the Key stage 4 of the National Curriculum for England, with particular relevance to Science: Sc1 Scientific enquiry, Investigative skills and Sc4 Physical processes; Mathematics, Ma1 Using and applying mathematics, Ma2 Number and algebra and Ma4 Handling data.

This resource is particularly well adapted for practicals, extended course work or science clubs.

This activity was originally delivered in Norfolk schools as part of National Science Week 2001. It was funded using a National Science Week Grant from the Biotechnology and Biological Sciences Research Council and has now been developed as a self sufficient unit for classroom use.



Paul Gunning & students
at Hobart High School, Norfolk



Paul Gunning using the scanning electron microscope

Yes, you can photocopy this pack!

The contents of this pack can be photocopied for educational use. The A4 electron microscope images (pp 12 & 13) could also be photocopied onto OHP acetates for demonstration in the classroom.

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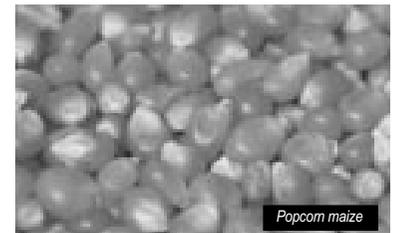
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Harvesting maize



Maize cobs



Popcorn maize

Background

Popcorn is not just a modern snack for cinema-goers. We are familiar with electric popcorn makers and microwave packs, but for generations people in South America, India and some parts of Africa have produced a tasty, nutritious snack by popping maize and other grains such as sorghum and millet on hot metal plates or on very hot sand.

Recently, scientists have found that the protein in porridge made from milled popped sorghum is more digestible than that made from ordinary sorghum flour. Scientists at the Institute of Food Research are interested in this difference in availability of protein from popped compared to unpopped sorghum.

Popcorn is an excellent source of protein, carbohydrates, vitamins and fibre. Popcorn can be a healthy snack provided not too much salt or sugar is added.