



Hinchingsbrooke School Science Department

KS3 Homework Task

Particles and Materials HW1 – Does size matter?

Date set:

Date Due in:

On the following page is information related to the task. You may need to do additional research to achieve the maximum level possible.

- Answer all questions, if you use PowerPoint please print off and stick in your book
- Fill in your details below

Name:	Form:
Teacher:	Science Set:

Feedback from teacher:

Student comment:

Does size matter?

Researchers are saying that a slimmer UK population would benefit us and the environment. For many years doctors have spoken about the health benefits of staying slim, but now a study has suggested it could help tackle climate change too. The study calculated the UK energy consumption if the weight of the UK population decreased to the weight of the 1970s.

The study compared a 'normal' adult population of the 1970s, when only 3.5% of the population was classed as obese, to the predicted UK population of 2010, when it is expected that 40% of adults will be classed as obese. They found that the heavier population uses 19% more food than the 1970s population did. This means more greenhouse gases given out by food production and by food transport. A heavier population also uses more fuel in cars and public transport, again increasing the greenhouse gases produced. In total, the study calculated that if the UK population returned to 1970s weights, it would save about 60 million tonnes of greenhouse gas emissions each year.

The leader of the study, Dr Edwards, said, 'This is not really obese people, the distribution of the whole population is important.' We eat larger portions of meat, smaller portions and do less exercise than in the 1970s. So, on average, fatter. Between 1994 and 2004 the average male body (BMI) increased from 26 to 27.3, and the female BMI from 25.8 to 26.9. Dr Edwards also said that it is not just a the BMI in almost all countries in the world is increasing. He reversing the 'global trend towards fatness' is a key factor climate change.



just about what's of vegetables everyone is mass index increased UK problem; said that in slowing

A growing problem (iStockphoto)

QUESTIONS

What percentage of a 'normal' adult population of the 1970s was classed as obese?

By how much has food consumption for the heavier 2010 population increased?

Suggest **one** way in which food production generates greenhouse gases.

Describe how our diet has changed since the 1970s.

Use energy ideas to explain why a heavier population uses more fuel for transport.

Summarise in **one** or **two** sentences the effect a heavier population has on the environment.

Challenge

Design a simple game for primary school children to teach them about the benefits of being slimmer, for themselves and for the environment.