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Knowledge of the arrangement and movement of the particles, and their relative sizes, and their stability in terms of the arrangement and movement of the particles.

Models of Matter, Atoms and Molecules

compare the relative size of atoms to other particles, and show an appreciation of the structure of the atom, and that atoms are made up of a positively charged nucleus (protons and neutrons) and negatively charged electrons (e.g. the various atomic models).

- compare atoms and molecules
- show an awareness that atoms are continuously revised as they are used to probe the structure of matter
- recognize that atoms have mass that is concentrated in the nucleus
- show an awareness that technologies resulting from knowledge of the atom have created social and ethical issues, risks and costs (e.g. atomic bomb)

g. state the number and types of atoms, given the chemical formula of a compound (writing of formulae of two or more atoms, chemically combined)

Content	Learning Experiences
<p>3. Multiplication and Division</p> <p>Students should have opportunities to:</p> <ul style="list-style-type: none"> use concrete objects and count the total number of objects in the groups. use language such as “9 groups of 5” and “2 fives” to describe multiplication and division. use pictorial representation to solve multiplication and division problems. solve 1-step word problems involving multiplication and division with pictorial representation. 	<p>Students should have opportunities to:</p> <ul style="list-style-type: none"> understand the concepts of multiplication and division. use objects to solve multiplication and division problems. use pictorial representation to solve multiplication and division problems. solve 1-step word problems involving multiplication and division with pictorial representation.



Exercise 1D

Basic Level

1. If y is inversely proportional to x and $y = 12$ when $x = 3$, find the value of x when $y = 4$.

2. The force of repulsion, F , between two particles is inversely proportional to the square of the distance, d , between them. When the particles are 5 cm apart, the force of repulsion is 20 N. Find the force of repulsion when the distance is 10 cm.

Intermediate Level

3. For each of the following equations, state the two variables which are inversely proportional to each other.

(i) $W = 9$

(ii) $W = \frac{1}{x}$

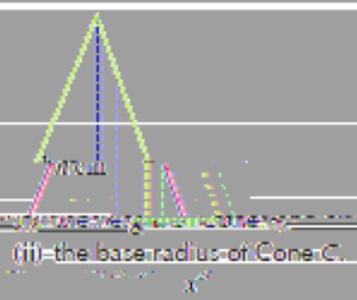
(iii) $W = \frac{1}{x^2}$

4. The volume, V , of a cone is proportional to the square of the base radius, r , and inversely proportional to the height, h . Cone A has a base radius of 6 cm and a height of 5 cm. The base radius of Cone B is 3 cm and the height is 1.25 cm. If all the cones have the same volume, find

(i) the height of Cone B,

(ii) the base radius of Cone C,

(iii) the height of Cone C.



Advanced Level

9. If y is inversely proportional to x , $y = 1$ and the...



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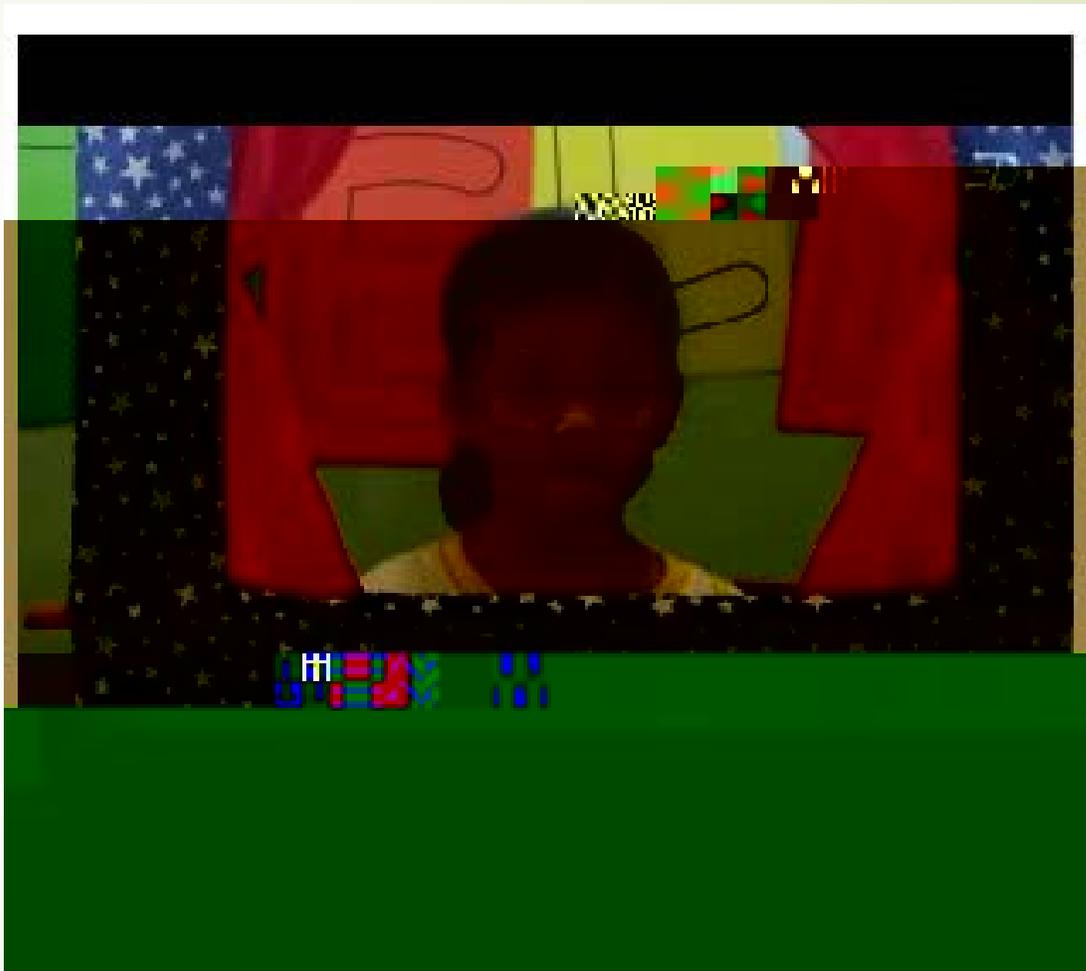


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