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| **Topic/Skill**  | **Definition/Tips** | **Example****Topic: Volume**  |
| 1. Volume | Volume is a measure of the amount of space inside a solid shape.Units: $mm^{3}, cm^{3},m^{3}$ etc. | Image result for math definition volume |
| 2. Volume of a Cube/Cuboid | $$V=Length×Width×Height$$$$V=L×W×H$$You can also use the Volume of a Prism formula for a cube/cuboid. | Image result for volume cuboid |
| 3. Prism | A prism is a 3D shape whose **cross section is the same** throughout. | Image result for math definition prism |
| 4. Cross Section | The **cross section** is the **shape** that **continues** all the way **through the prism**. |  |
| 5. Volume of a Prism | $$V= Area of Cross Section×Length$$$$V=A×L$$ |  |
| 6. Volume of a Cylinder | $$V=πr^{2}h$$ |  |
| 7. Volume of a Cone | $$V=\frac{1}{3}πr^{2}h$$ |  |
| 8. Volume of a Pyramid | $$Volume= \frac{1}{3}Bh$$where B = area of the base | $$V=\frac{1}{3}×6×6×7=84cm^{3}$$ |
| 9. Volume of a Sphere | $$V=\frac{4}{3}πr^{3}$$Look out for hemispheres – just halve the volume of a sphere. | Find the volume of a sphere with diameter 10cm.$$V=\frac{4}{3}π(5)^{3}=\frac{500π}{3}cm^{3}$$ |
| 10. Frustums | A frustum is a solid (usually a cone or pyramid) with the **top removed**.Find the volume of the whole shape, then take away the volume of the small cone/pyramid removed at the top. | **Topic: Geometry and Measures (H)** $$V=\frac{1}{3}π\left(10\right)^{2}\left(24\right)-\frac{1}{3}π\left(5\right)^{2}\left(12\right)=700πcm^{3}$$ |

**Knowledge Organiser**