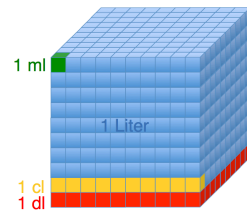


# Mit Würfeln Quader bauen



## Raummasse bzw. Volumenmasse (1000er Schritte)

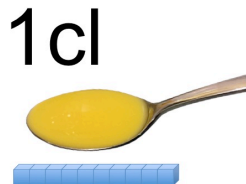
Einheit „Kubikmeter“:  $1 \text{ m}^3 = 1\,000 \text{ dm}^3 = 1\,000\,000 \text{ cm}^3 = 1\,000\,000\,000 \text{ mm}^3$

Einheit „Liter“:  $1 \text{ l} = 10 \text{ dl} = 100 \text{ cl} = 1000 \text{ ml}$



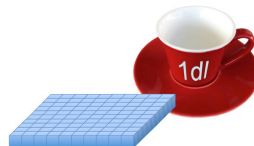
1 ml

$$1 \text{ cm}^3 = 1 \text{ ml}$$

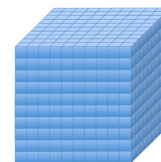


1 cl

$$10 \text{ cm}^3 = 1 \text{ cl}$$



$$100 \text{ cm}^3 = 1 \text{ dl}$$

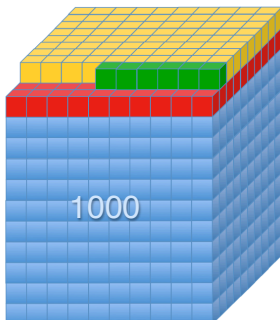


$$1000 \text{ cm}^3 = 1 \text{ l}$$

## Mit Würfeln bauen und trennen

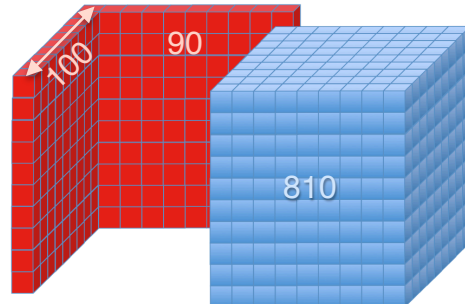
$$V = 1000 \text{ cm}^3 + 100 \text{ cm}^3 + 80 \text{ cm}^3 + 6 \text{ cm}^3$$

$$V = 1186 \text{ cm}^3$$



$$V = 1000 \text{ cm}^3 - 100 \text{ cm}^3 - 90 \text{ cm}^3$$

$$V = 810 \text{ cm}^3$$

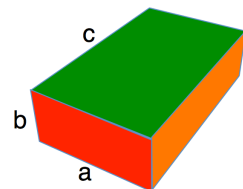


## Gesamtkantenlängen-, Volumen- und Oberflächenberechnung beim Quader

$$k = 4 \cdot a + 4 \cdot b + 4 \cdot c$$

$$k = 4 \cdot 4 \text{ cm} + 4 \cdot 2 \text{ cm} + 4 \cdot 6 \text{ cm} = 16 \text{ cm} + 8 \text{ cm} + 24 \text{ cm} = 48 \text{ cm}$$

$$V = a \cdot b \cdot c = 4 \text{ cm} \cdot 2 \text{ cm} \cdot 6 \text{ cm} = 48 \text{ cm}^3$$



$$A_1 = a \cdot c = 4 \text{ cm} \cdot 6 \text{ cm} = 24 \text{ cm}^2$$

$$A_2 = a \cdot b = 4 \text{ cm} \cdot 2 \text{ cm} = 8 \text{ cm}^2$$

$$A_3 = b \cdot c = 2 \text{ cm} \cdot 6 \text{ cm} = 12 \text{ cm}^2$$

$$S = 2 \cdot A_1 + 2 \cdot A_2 + 2 \cdot A_3$$

$$S = 2 \cdot 24 \text{ cm}^2 + 2 \cdot 8 \text{ cm}^2 + 2 \cdot 12 \text{ cm}^2 = 88 \text{ cm}^2$$

