

Ytterbian isotopes

Education in Chemistry

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rsc.li/2qcDGH3

Higher level activity (teacher answers)

Read the article 'The most important village in chemistry' (rsc.li/2qcDGH3). It mentions a number of elements that are associated with the town of Ytterby. Use the information in the table to work out the elements the data describes and the chemical symbols. Complete all the gaps in the table. The missing information is given in **bold**.

Element	Number of protons	Number of neutrons	Symbol
Yttrium	39	49	${}^{88}_{39}\text{Y}$
Erbium	68	94	${}^{162}_{68}\text{Er}$
Gadolinium	64	92	${}^{156}_{64}\text{Gd}$
Dysprosium	66	96	${}^{162}_{66}\text{Dy}$
Ytterbium	70	98	${}^{168}_{70}\text{Yb}$
Scandium	21	24	${}^{45}_{21}\text{Sc}$
Thulium	69	100	${}^{169}_{69}\text{Tm}$
Holmium	67	98	${}^{165}_{67}\text{Ho}$
Dysprosium	66	90	${}^{156}_{66}\text{Dy}$
Lutetium	71	104	${}^{175}_{71}\text{Lu}$
Gadolinium	64	90	${}^{154}_{64}\text{Gd}$
Ytterbium	70	106	${}^{176}_{70}\text{Yb}$
Terbium	65	94	${}^{159}_{65}\text{Tb}$
Erbium	68	99	${}^{167}_{68}\text{Er}$