

Question Number	Answer	Additional guidance	Mark
5(b)(i)	<p>An explanation that includes the following points:</p> <ul style="list-style-type: none"> • magnesium is needed to form chlorophyll / chlorophyll contains magnesium (ions) (1) • for the production of {glucose / carbohydrate / ATP} in photosynthesis (1) 	<p>ignore plant growth accept for the conversion of light energy to chemical energy in photosynthesis</p> <p>Accept for one mark ATP / enzymes must be bound to magnesium ion to be biologically active</p>	(2)

Question Number	Answer	Additional guidance	Mark
5(b)(ii)	<p>An answer that includes the following points:</p> <ul style="list-style-type: none"> • increasing magnesium ion concentration increases {mass / growth} / positive correlation (1) • {same / similar} effect on proportion of mass increase in shoots and roots (1) • significant difference between results as the {SD/range/error} values do not overlap (1) • comment on size of SD linked to reliability of data (1) 	<p>accept magnesium deficiency decreases the {mass / growth}</p> <p>accept greater increase of shoot mass than roots</p> <p>accept data is {valid / reliable} as the {SD/range/error} values do not overlap</p>	(4)