

Question Number	Answer	Additional guidance	Mark
7(b)	<p>An answer that includes the following points:</p> <ul style="list-style-type: none"> • histone modification can be passed onto zygotes (1) • if enzyme M is present, histone modification is passed on to {all chromosomes / embryo} (after cell division in experiment 1) (1) • cells divide by mitosis (1) • if enzyme M is absent (in the egg cell cytoplasm) then the histone modification decreases until no longer detected (1) • (histone modification decreases because) replicated DNA can't be modified without enzyme (M) (1) • description of histone modification (1) 	<p>ACCEPT fertilised egg cells (in both experiments) have histone modification</p> <p>ACCEPT enzyme M causes histone modification ACCEPT histone modification is passed on to {all chromosomes/embryo} in experiment 1</p> <p>ACCEPT cell division involves replication of DNA</p> <p>ACCEPT histone modification is not passed on to all chromosomes in experiment 2</p> <p>ACCEPT enzyme M can't be produced (if absent in egg cell)</p> <p>ignore genes being switched {on/off}</p>	(5)