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Level: HL IB in Biology
Subject: Biology
Topic: IB HL Biology
Type: Topic Question

All International Baccalaureate IB Topic Questions HL Biology

BIOLOGY

HL - IB

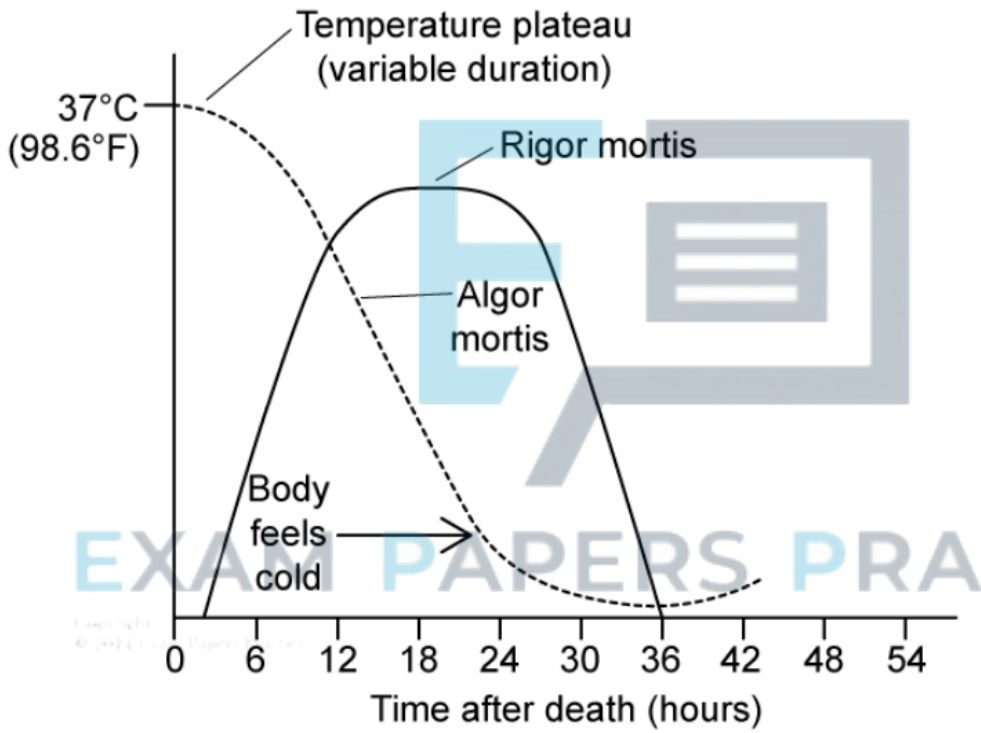
Key skills

Question 1

Rigor mortis describes the stiffening of body muscles due to chemical change in myofibrils after death. Knowledge of the stages of rigor mortis allows pathologists to estimate the time of death accurately.

Algor mortis refers to the gradual decrease in the body's temperature after death.

The graph shows the onset of Rigor mortis and Algor mortis after death.



Which of the following options shows a valid explanation for the trends shown in the graph?

	Trend	Explanation
A	Body temperature decreases from 0 to 36 hours after death	Calcium is not replenished due to lack of ATP
B	*Rigor mortis* peaks at 12 hours after death	ATP is no longer available to break actin-myosin cross bridges
C	Body temperature increases slightly 36 hours after death	Energy is released from hydrolysis of the remaining ATP
D	*Rigor mortis* increases gradually after death	ATP becomes depleted so muscles cannot remain relaxed.

[1 mark]