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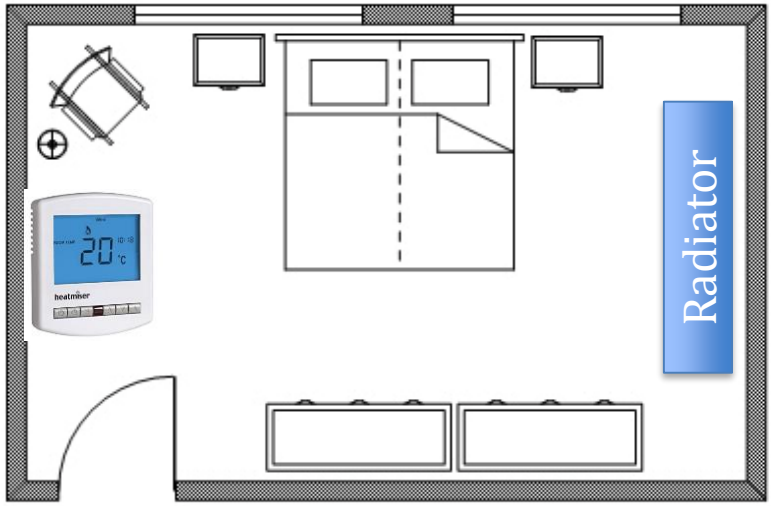
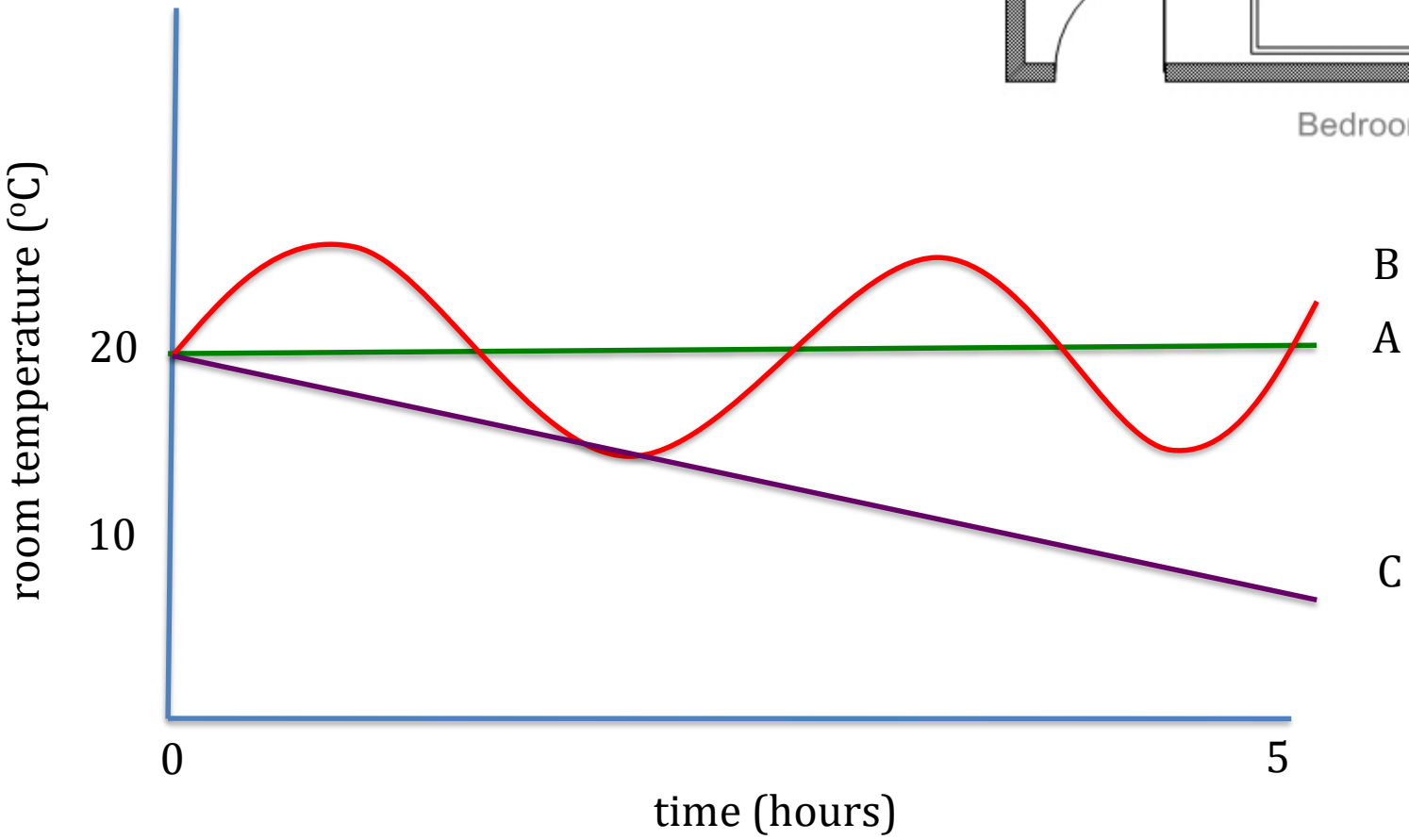
| **Topic** | Homeostasis and negative feedback | **Level** | GCSE (or any course for students aged 11-16) |
| **Outcomes** | 1. To understand that internal conditions are not absolutely constant – they fluctuate around a narrow range called the set point<br>2. The smaller the fluctuations the most constant the internal environment | | |
| **Information for teachers** | This is a challenging exercise but can be used at the start of the homeostasis topic to help students understand the principles of negative feedback and homeostasis. | | |

The central heating thermostat is set at 20 °C . The outside temperature is 10 °C.

Which line do you think best describes the room temperature over a five hour period? Explain your answer.



1. Mark onto the graph the following:
    - Times when the heater comes on?
    - Times when the heating goes off?
2. Use this information to explain why the room temperature does not stay at 20°C?
3. Sketch a new graph to show how body temperature changes over time. How do you think the graph below is similar **and** different to changes in body temperature?