

## Activity 4 – Physics

### Question 1

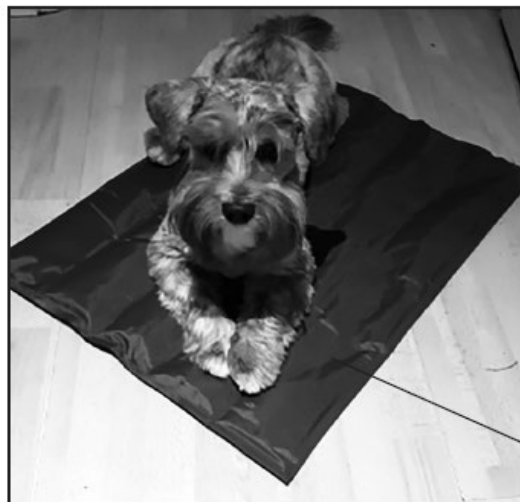
- 7 (a) Give two pieces of evidence for the Big Bang theory.

(2)

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### Question 2

- 6 A dog sits on a water-filled bag to keep cool.



water-filled bag

- (b) Discuss why conduction is the main way that thermal energy is transferred from the dog to the water.

(3)

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7 (a)	<p>Cosmic Microwave Background Radiation (CMBR)</p> <p>(Cosmological) Red shift of <u>galaxies</u></p>	<p>Allow one missing word</p> <p>Accept reference to Hubble's Law.</p> <p>Allow higher level idea of ratio of hydrogen to helium as alternative to either marking point.</p>	2
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(b)	<p>Any THREE from</p> <p>MP1 Dog and water are at different temperatures;</p> <p>MP2 Dog and water in physical contact so likely to be conduction;</p> <p>MP3 No movement of particles from dog to water, so not convection / EQ;</p> <p>MP4 Dog and bag are both solids, so convection impossible;</p> <p>MP5 Not much radiation as dog and water similar temperatures;</p>	<p>Allow "no gap between dog and bag so no convection"</p>	3
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