

Adaptations in Animals to Climate

1. The table below shows some information about two species of fox. The arctic fox lives in the arctic tundra, a cold climate while the fennec fox lives in the desert, a hot climate.

Feature	Arctic Fox	Fennec Fox
Size of ears	Small	Large
Fur colour	White in winter, brown in summer	Light brown
Mean body mass/Kg	3	1.2
Mean height at shoulder/m	0.3	0.2
Thickness of fur	Thick	Thin

Explain how each type of fox is adapted for its habitat.

[6]

2. a) In Africa both a mouse and an elephant would need to cool down. Which would find it easier? Explain your answer.



b) In Britain, mice need to eat their own mass of food every day to survive. Suggest why.

3.

Animal	Mean Annual Range of Temperature /°C	Surface Area/m²	Volume/m ³	SA:V ratio
Grizzly Bear	1.7	20	6	3.3:1
Polar Bear	-6	19	6	3:1
Black Bear	6	17	4	
Sun Bear	26.7	7	1	7

a) Calculate the surface area to volume ratio of the black bear and complete the table.

[2]

[3]

b) What conclusions can you make about how the climate effects surface area to volume ratio?

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Total = 17 marks