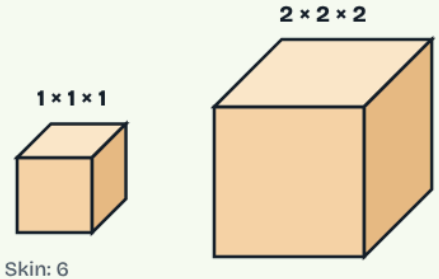
That is why

Why do elephants have such big ears?

They are radiators: warm blood spreads through thin, flapping ears and comes back cooler.

A Bigger body, less skin per kilo



Skin: 6
Body: 1
Skin per body: 6

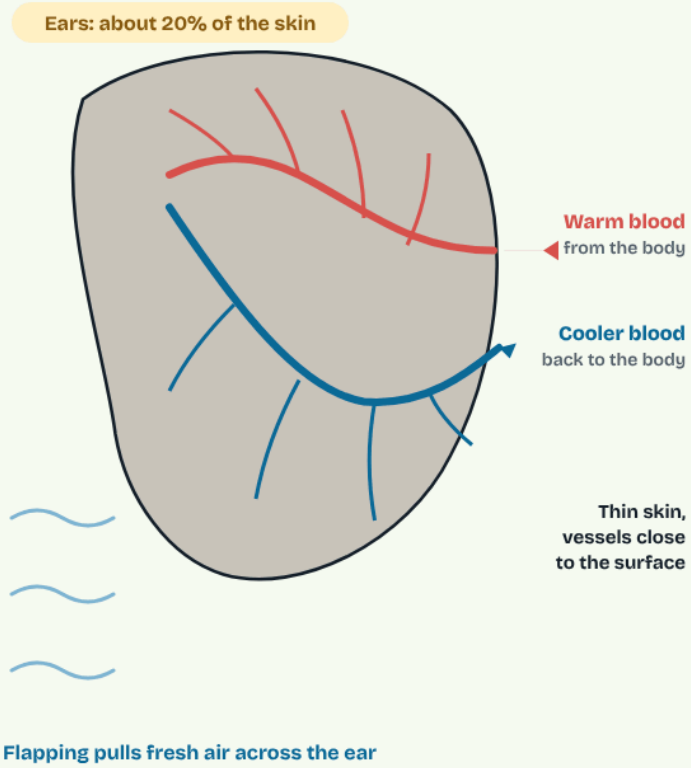
Skin: 24 (4 times more)
Body: 8 (8 times more)
Skin per body: 3

The square-cube law

Double an animal's size and its skin grows 4 times, but the body making heat grows 8 times.

A mouse loses heat easily. An elephant struggles to get rid of it.

B How the ear cools the blood



C The cooling toolkit

1 Flapping

Moving air carries heat away faster. Models suggest flapping ears can, in some conditions, shed almost all the heat needed.

2 Water and mud

Bathing and wallowing in mud cool the skin as the water evaporates.

3 Bigger ears where hotter

African elephants of the hot, open savanna have much bigger ears than Asian elephants, which live in shadier forests.

A huge body needs huge radiators.

Free for learning thatiswhy.com

Free for learning, teaching and research. Please credit: That Is Why, thatiswhy.com

Diagram: https://thatiswhy.com/diagrams/why-elephant-ears-cool/ · Full guide: https://thatiswhy.com/why-elephant-ears-work-like-giant-cooling-panels/