

## Re: Shuttle lift-off questions

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- *From:* [mmeron@xxxxxxxxxxxxxxxxxxxx](mailto:mmeron@xxxxxxxxxxxxxxxxxxxx)
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In article <1152292067.296128.109140@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, "Randy Poe" <poespam-trap@xxxxxxxx> writes:

mmeron@xxxxxxxxxxxxxxxxxxxx wrote:

In article <e8lb1h\$8qk\_001@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, jmfbaiciv@xxxxxxx writes:

Does this have anything to do with Ken's comment about biology is all about surfaces? I'm still thinking about that one.

This one is more complex. But, in a nut shell, biology is about structures in liquid. and stuff is happening on the surfaces of the structures. But it could've been a different liquid than water.

Frostbite wouldn't be nearly as much of a problem if we weren't water based. The problem is that when cells freeze, they burst their membranes and die. What if freezing was non-destructive, and things could just thaw back out again?

There are organisms which can survive freezing and thawing. They must use some such strategy. Viruses don't have any water. But bacteria do... how do they survive? Or do they?

I remember reading that some bacteria have a natural antifreeze in their system, allowing them to get to much lower temperature before freezing. Also, bacteria can form spores (which are dehydrated), that sounds like a useful coping strategy.

Mati Meron | "When you argue with a fool,  
meron@xxxxxxxxxxxxxxxxxxxx | chances are he is doing just the same"

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