|  |  |  |  |
| --- | --- | --- | --- |
|  | **Function** | **Strategy** | **Design Principle** |
| 1 | Efficient communication of multiple messages | Use specific chemical markers laid down while working to direct others towards or away from source of reward | Immediate, universally understood and communicated rules result in reinforcement of the message and efficiency |
| 2 | Attachment on wet surfaces | Regular microstructure on toe pads increased attachment force | A microstructure of hexagons with capillary size channels provides attachment to wet surfaces |
| 3 | Flexible water storage | Store water in tissues when it become available | A water absorbent structure that layers rigid and collapsible components that can adapt to holding varying levels of water (while also providing structure independent of water volume) |
| 4 | Highly tuned regulation of temperature | Individual bees fan or cluster based on individual tolerances to temperature | Different temperature thresholds of individual controlling mechanisms allow for regulation of temperature independent of range |
| 5 | Absorb water from air | Salt-based gel hydrates and dehydrates depending upon humidity to pull water from the air | Electron changes in salt solution react to amount of humidity in air using chemical attraction to pull water from the air |

**Function and Abstract Worksheet**

**Biomimicry Workshop 2015**

**“Cheat Sheet”**