

W4.1 USING INSPIRATION FROM NATURE Identification of function

STUDENT WORKSHEETS

Remind yourself of your main challenge / problem (see Question 1), and look over your answers to Question 3. Think about the <u>function</u> you want to achieve, where <u>in nature</u> you might find this function (HINT: use resources of W3.1 to research), and then think about how this might be <u>applied</u> to your challenge.

Function	Ask Nature	Apply
What do you want to do? HINT: think about smaller pieces of the challenge first.	Where might you find this in nature? How does nature do this?	How can nature help you address your challenge? What can you borrow from nature, and how might it be applied in this context?
EXAMPLE: Enhance visibility in low light.	Cat's eyes have a layer of reflective cells at the back which reflects low levels of light.	Can the form and function of the cells be mimicked to improve the design of cyclists' reflective clothing?
EXAMPLE: Provide warmth in cold weather.	Bears fur traps warm air close to the skin, insulating it against cold winter temperatures.	Can we design a jacket which traps warm air for insulation?
EXAMPLE: Eliminate waste.	In nature waste from one process is food for an- other; trees shed their leaves to conserve energy over winter and these leaves decay to provide nutrients for soil micro-organisms.	Can we design plastic bottles so once finished with they can 'feed' another process or be completely reused?
	: 	