

# Discover: Operating Conditions Lens

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The purpose of this exercise is to develop your skills in describing operating conditions, both in your designs and in the natural world. Operating conditions are often referred to as the “non-negotiables” in a design.

For every design challenge you face you will need to:

1. identify the operating conditions/non-negotiables that the design has to manage in its environment, and
2. identify organisms that have to deal with these same operating conditions in the natural world.

## EXAMPLE

**Design Challenge:** I need to prevent the metal surfaces of commercial fishing boats from corroding due to salt water exposure.

**Operating Conditions/non-negotiables:** Salt water, high salinity, oxidation, alternating exposure to saltwater and air

**Organisms:** crabs, mammalian cells, nasal (salt) glands in sea birds, tidal pools

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## YOUR TURN

**Design Challenge:** (Use your design question)

**What are the operating conditions/non-negotiables in this environment?**

**What organisms are dealing with the same operating conditions in this environment?**

**What organisms are dealing with the same operating conditions in another habitat, or which other regions or habitats might you look to for inspiration?**