

Design and technology - Design in the natural world

Using nature to solve design problems

Lesson 2



OAK
NATIONAL
ACADEMY

During this lesson we will:

Task: Write down these definitions and keywords along the way

Conduct a product analysis task



Look to nature to provide design solutions



Use a mood board to design from



What we will explore in today's lesson....

*If you prefer you
can also work in
Word or
PowerPoint.*

What are the key features of a product?

Can nature help us develop a product?

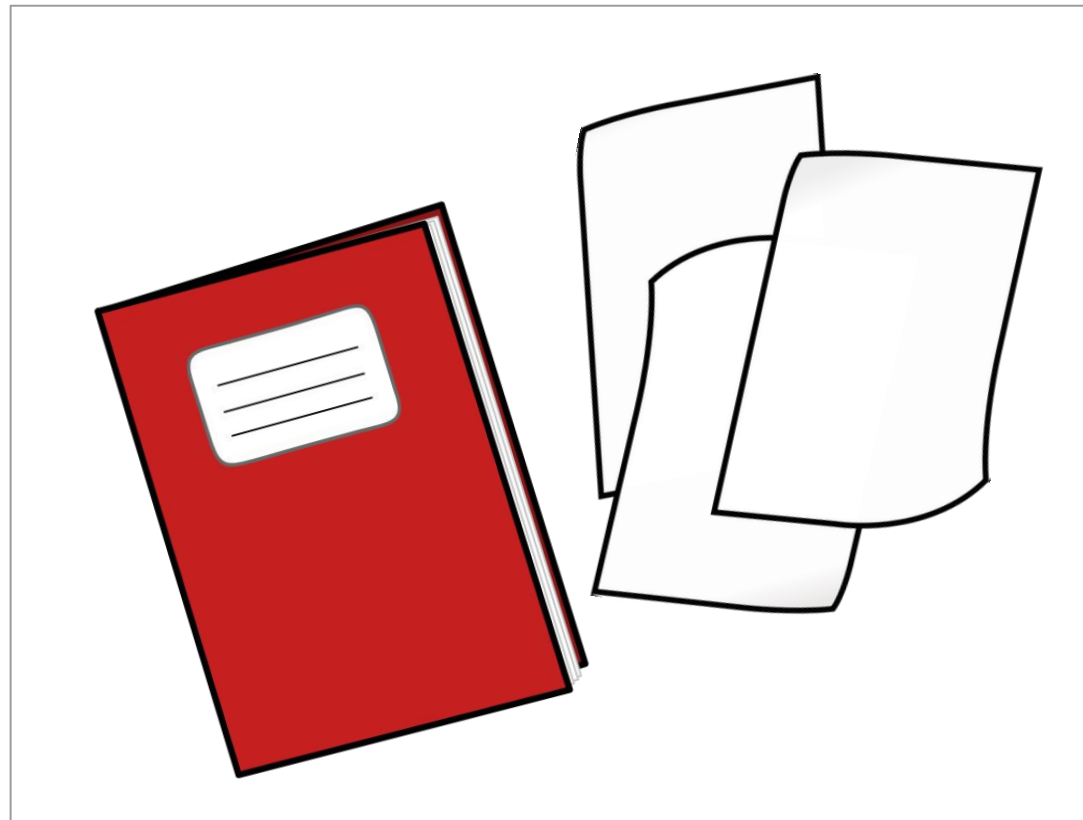
How can you use a mood board for ideas?



In this lesson you will need

*If you prefer you
can also work in
Word or
PowerPoint.*

Exercise book or paper



A pencil



Credit: Flaticons © 2010-2020 Freepik Company S.L. All rights reserved



Keywords

Task: Write down these definitions

Specification is the key points that guide a designer in development of a product.

Design-fixation is the inability to move away from an idea.

Inspiration is the source of an idea or where an idea comes from.



So what does 'biomimicry' mean?

Reminder from the previous lesson.

Let's break down the word

Bio

Bio comes from the Greek word 'bios', which means 'organic life'.

Mimic

Mimic means to take on the appearance of or to copy.

Biomimicry

When the two are put together you get 'biomimicry'. For designers this means to copy or take some inspiration from nature.



So what does 'biomorphic' mean?

Reminder from the previous lesson.

Let's break down the word

Bio

Bio comes from the Greek word 'bios', which means 'organic life'.

Morphic

Morphic means to take the form of.

Biomorphic

When the two are put together you get 'biomorphic'. For designers this means to copy or take the form from nature.



Can we use biomimicry to design a lamp?

In this lesson we are going to look to nature to help us design a lamp

Can nature inspire the way the lamp functions and joins together?

Make notes of your thoughts and ideas.



Credit: Pixabay



Look at the lights, how are they different?

*Make notes of
your thoughts
and ideas.*

Light 1



Light 2



What do you see as the link?

Make notes of your thoughts and ideas.

Image 1



Image 2



Lamp specification points to consider

*Make notes of
your thoughts
and ideas.*

A design specification is often a list of points that a designer must consider when designing.

We are going to focus on two aspects of the lamp that you will need to consider.

- **The type of lamp - its purpose.** Is the lamp for a wall, a desk or will it go on the floor?
- **How the lamp moves - its function.** How can the direction of light be changed?



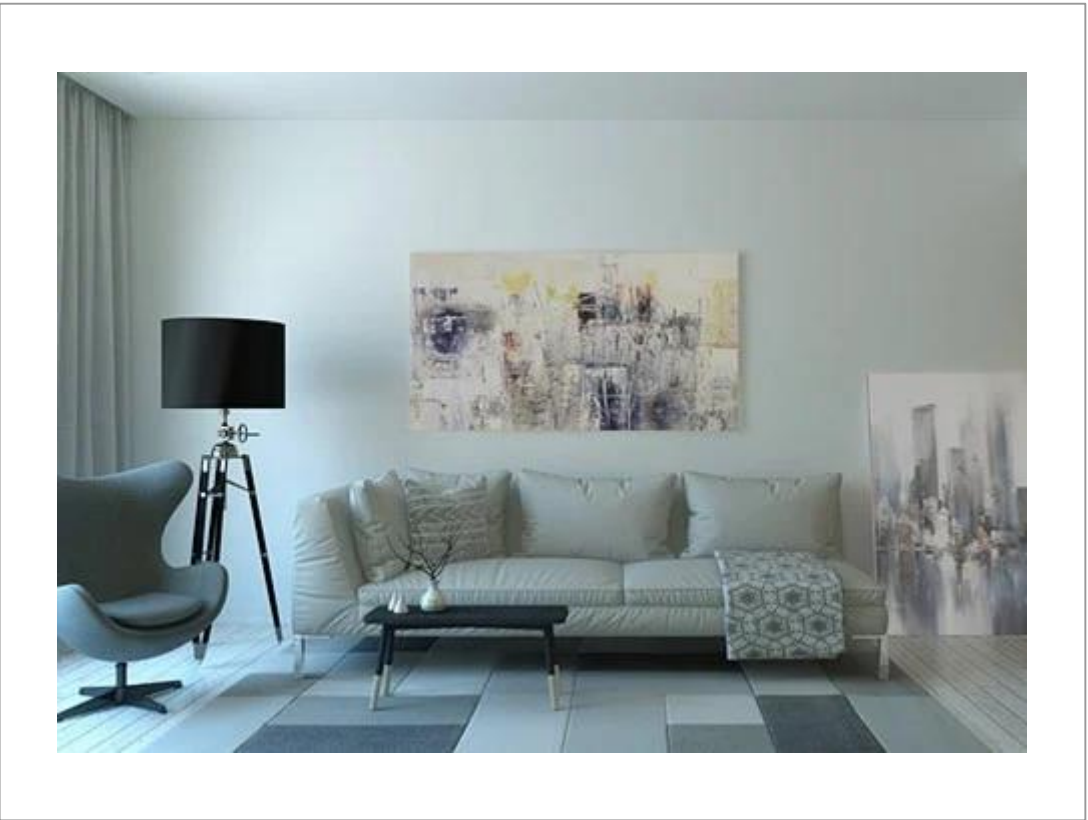
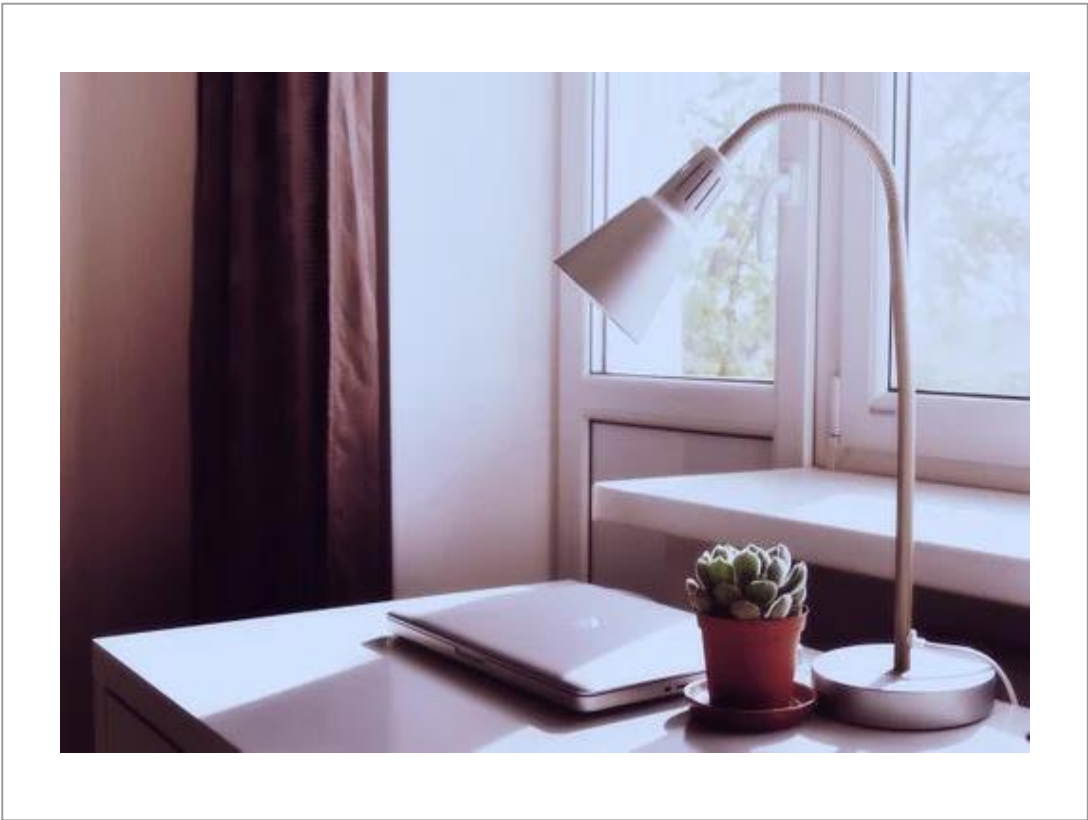
What type of lamp might you develop?

Make notes of your thoughts and ideas.

For a wall

For a desk

For the floor



How might the lamp stay in place?

Make notes of your thoughts and ideas.

Gecko

Claw

Burdock



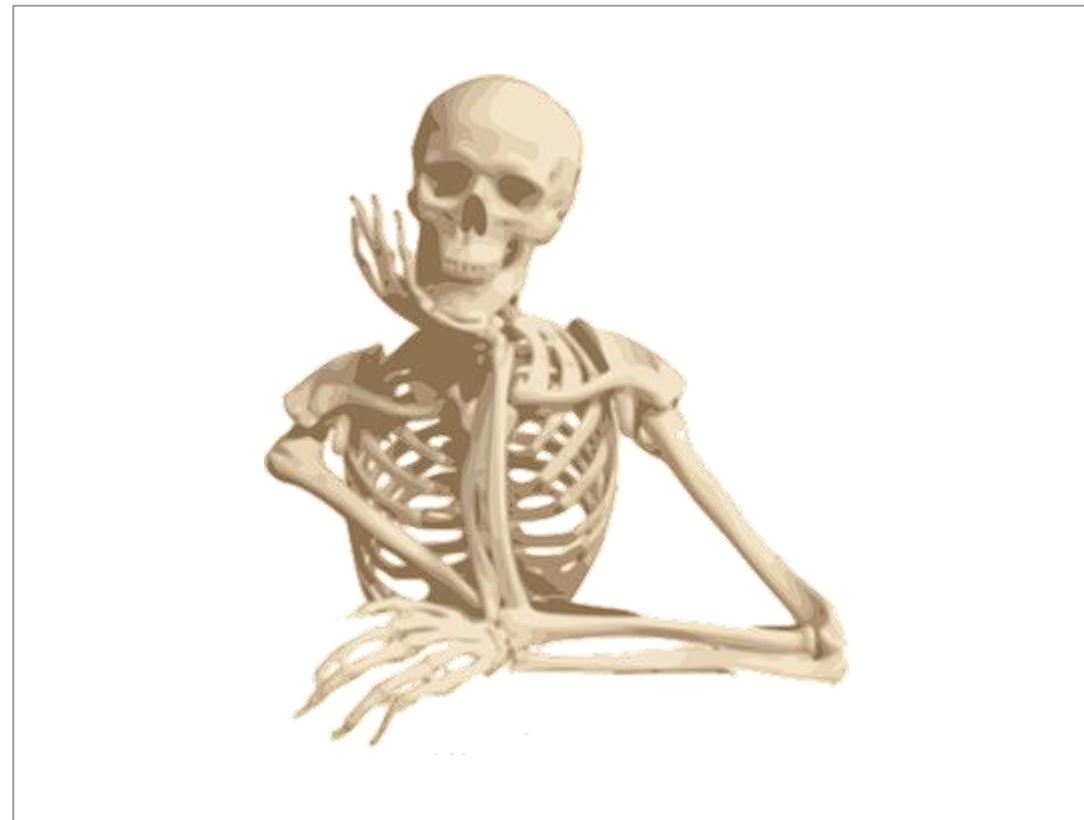
How might you adjust or move the lamp?

Make notes of your thoughts and ideas.

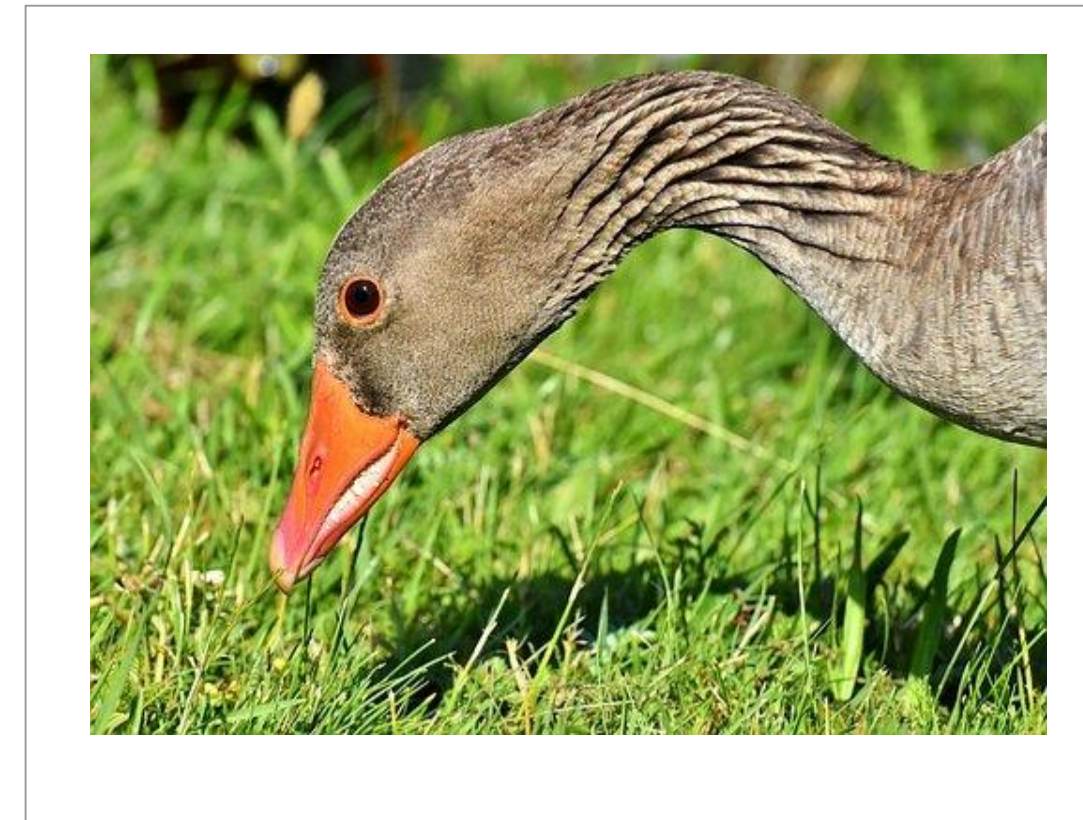
Lobster



Skeleton



Goose



Next steps and points to consider

Decide on the style of lamp you'll make

How will the lamp stay in place?

How will the lamp be adjusted?

*Make notes of
your thoughts
and ideas.*



*Make notes of
your thoughts
and ideas.*

*How will you use
biomimicry or biomorphism
to help you?*



A design mood board can be a good starting point

Designers make mood boards as a source of inspiration.

Mood boards can help a designer get a 'feel' for a theme or style from using a mood board.

Have a go at making your own to help with each design consideration.

Credit: Pixabay



Recap tasks from last lesson.



Here is a mood board I have produced

Recap tasks from last lesson. Add to your mood board if you need to.



Credit: Pixabay



Complete these tasks

Designing a lamp

Make notes of your thoughts and ideas.

You are going to design a lamp using biomimicry to ensure some of the function is inspired by nature.

You can either use my mood boards or make your own.

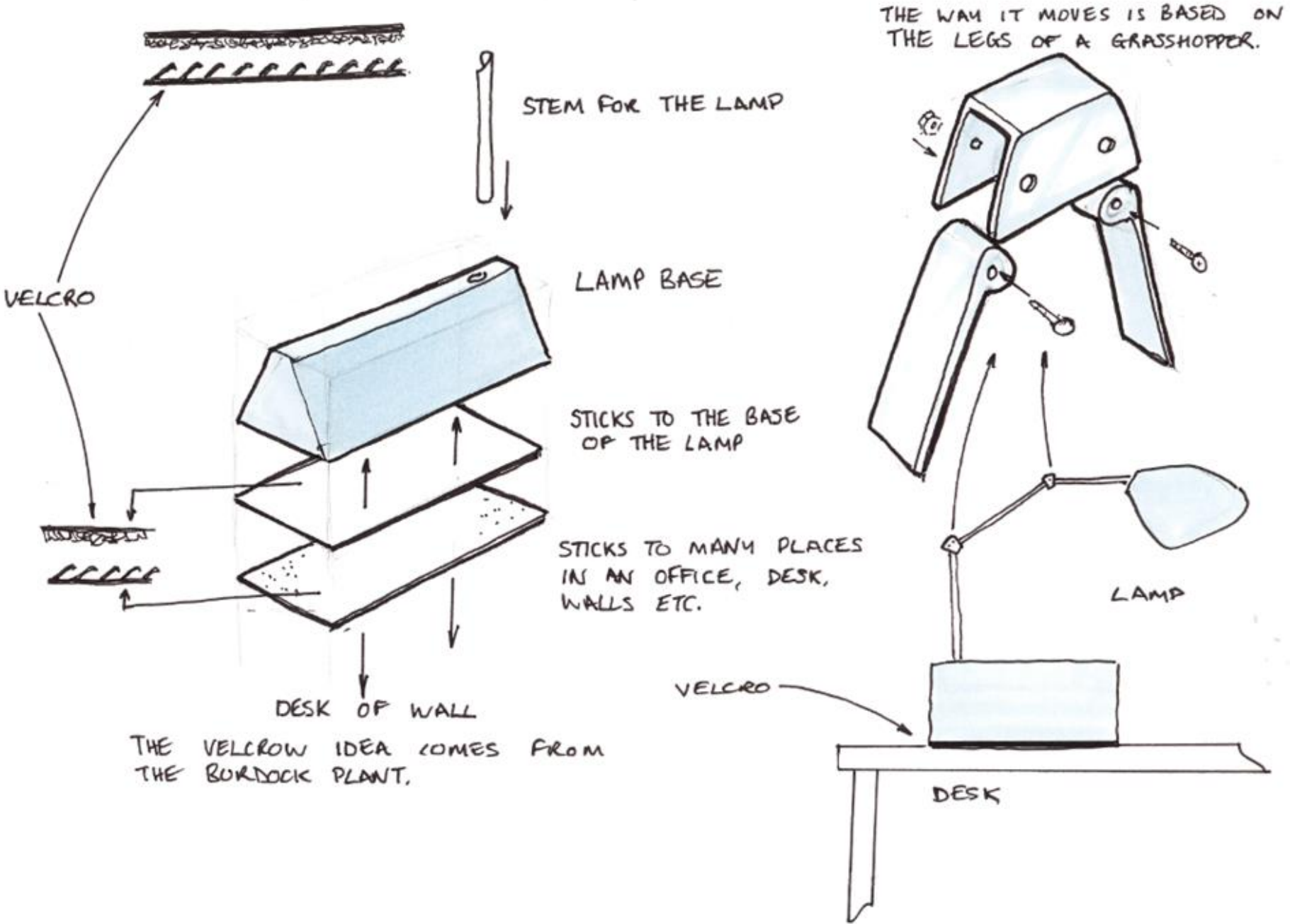
Use the mood board to take ideas related to the way the lamp is held or fixed in place and how it might move. See next slide for examples.

- 1. Create three designs of a lamp looking at the inspiration you have gathered so far.**
- 2. Annotate your ideas explaining the inspiration you have taken from nature and colour your designs. Use key words.**
- 3. Select your best outcome and explain why this is your chosen lamp design. Think about the features we have gone through in the PowerPoint to explain your answer.**



An example

Make notes of your thoughts and ideas.



Keywords

Allow space in the corner for your webcam video

Specification - key points that a designer must design to

Design-fixation - not being able to move away from an idea

Inspiration - where an idea comes from

