

The background is a composite image. On the right, a person in a white lab coat and blue gloves holds a test tube with a glowing orange light. In the center, a glowing blue DNA double helix is superimposed over a blurred laboratory scene with various glassware. On the left, there are abstract blue and white geometric shapes, including a hexagon, a cross, and a striped rectangle, along with binary code '0000' and network diagrams.

# Cutting edge

Science & Technology

# Analysis



# Structure

## SWOT Analysis

What is it?

## Passive Voice

Appreciating the use in scientific language

## Strengths & Weaknesses

Focusing on the positives and recognising & dealing with negatives

## Technical vocabulary

Words that are used in a technical capacity.

## Opportunities & Threats

Reacting to various issues

## Idioms

Some idioms to improve your vocabulary.

# A strategic planning tool

It provides a structured framework for evaluating both internal and external factors that can impact our organization's performance.





# SWOT analysis

## Internal factors

- **Strengths:** These are internal factors that represent the organization's advantages and capabilities. Strengths are what sets us apart and give us a competitive edge.
- **Weaknesses:** These are internal factors that hinder our performance or put us at a disadvantage. Identifying weaknesses helps us address areas for improvement.



# SWOT analysis

## External factors



- **Opportunities:** These are external factors in the business environment that can benefit our organization. Recognizing opportunities allows us to seize them for growth.
- **Threats:** These are external factors that pose risks or challenges to our organization. Being aware of threats enables us to develop strategies to mitigate them.

# Focus on the positive

Always look on the bright side  
of life.



# Emphasising positives



## Bedrock

The high quality of our service is the **bedrock** of our reputation

## Ground-breaking

Apple is well-known for their **ground-breaking** designs.



# Emphasising positives



## Edge

Investing in people is what gives us an **edge** over our competitors

## Top-notch

Spanish wine is absolutely **top-notch**

# Emphasising positives



## Key

The **key** to our success is our intellectual property.

## Tailored

Our expertise lies in developing fully **tailored** webpages for our clients

# Emphasising positives



## Approach

Our personal touch means our **approach** will be creative and totally unique.

## Broad

The diverse experience of our partners gives us a **broad** perspective.

1. We're aware of **the negative effect** on our reputation
2. It's true that we have **little experience** in this area.
3. We fully acknowledge **a need for** proper back-end systems
4. This **lack** of critical R&D funding is on our radar.
5. I think we all agree that our **inability to** calculate risk more precisely makes us **vulnerable**.

Acknowledging

Negatives





1. I think we're all conscious of our **main shortcomings**.
2. We realise that our product development cycle **is too long**.
3. It's quickly becoming clear that high tax rates are **the main stumbling block to** new investment.
4. With hindsight, I see that our **downfall** was a result of being too **set in our ways**.

Acknowledging

Negatives



# Reacting to opportunities

1. **Exploit:** The company decided to exploit the growing interest in eco-friendly products by launching a new line of sustainable goods.
2. **Capitalise on:** The smart entrepreneur saw an opportunity to capitalise on the rising demand for remote work solutions and developed a successful telecommuting software.



# Reacting to opportunities

## Useful verbs

1. **Use something to your advantage:** She knew her language skills were an advantage, so she used her multilingual abilities to secure a job in international sales.
2. **Make the most of:** As a student, it's important to make the most of your time in college by getting involved in extracurricular activities and networking with peers.
3. **Take advantage of:** Students should take advantage of the resources available at the library for their research projects.



## Reacting to opportunities

- 6. Make hay while the sun shines:** The beach resort owners know they must make hay while the sun shines during the summer tourist season.

1. **Adapt to:** In order to thrive in the new digital age, companies must adapt to rapidly changing technologies.
2. **Offset:** The reduction in carbon emissions from the new eco-friendly transportation system will help offset the environmental impact of the factory.
3. **Bide our time:** Instead of rushing into the decision, the team decided to bide their time and wait for a more favourable market situation.

Reacting to

Threats



4. **Get around:** When traffic was congested, he found a way to get around it by taking a different route to work.
5. **Deal with:** The manager had to deal with a difficult situation when two employees had a conflict in the workplace.
6. **Minimise:** To reduce the risk of accidents, it's important to take steps to minimize potential hazards in the workplace.

Reacting to

Threats





# Passive structures

## When to use the passive

1. The action is emphasised, but the sentence still mentions who is or was responsible for it.

*The world record for the men's 200 metres **was broken** by Usain Bolt in 2009.*





## Passive structures

### When to use the passive

2. Who is or was responsible for the action is not important or not known.

*Jonathan's apartment **was broken into** twice last year.*

## Passive structures

3. The action is emphasised, but the sentence still mentions what was responsible for it.

*Over a thousand people **have been affected** by the recent flooding.*

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## Passive structures

### When to use the passive

4. What is or was responsible for the action is not important or not known

*The front of the **building has been** severely **damaged**.*

5. Who or what is or was responsible for the action is obvious so does not need to be mentioned

*Jenny's knee **is being operated on** tomorrow at the City Hospital.*



# Passive structures



## Translations

PHRASE	SIGNIFICADO
Food and drink <b>must not be brought into</b> the lab.	No se debe introducir comida ni bebida en el laboratorio.
No photographs <b>may be taken</b> inside this museum.	No está permitido hacer fotografías en el interior del museo.
Infra-red equipment <b>is being used</b> to search for further survivors.	El equipo de infrarrojos se está utilizando para buscar más supervivientes.
The award for best innovation <b>will be shared</b> by three postgraduate students.	El premio a la mejor innovación será compartido por tres estudiantes de posgrado.
Thorough safety checks <b>will be carried out</b> immediately.	Se realizarán inmediatamente comprobaciones de seguridad exhaustivas.
The discovery of the new planet <b>was announced</b> by the astronomers, and it is believed to be located in the habitable zone.	El descubrimiento del nuevo planeta fue anunciado por los astrónomos, y se cree que está situado en la zona habitable.
The experiment <b>was conducted by</b> the research team to investigate the effects of the new drug on cancer cells.	El equipo de investigación llevó a cabo el experimento para investigar los efectos del nuevo fármaco en las células cancerosas.



## Cutting edge - expressions

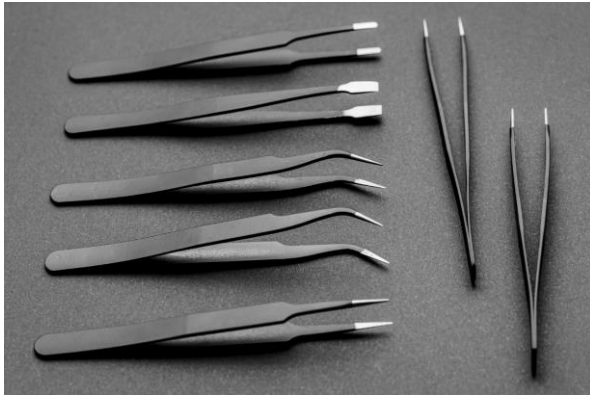


- |                           |                                   |
|---------------------------|-----------------------------------|
| 1. In the vanguard        | At the cutting edge               |
| 2. A double-edged sword   | Having advantages + disadvantages |
| 3. The lay person         | Non-expert                        |
| 4. For its own sake       | As an end in itself               |
| 5. Subject to regulations | Effectively controlled by law     |
| 6. The greater good       | The benefit of society at large   |

# Technical things

## Tweezer

The splinter was finally pulled out with **tweezers**



## Valve

A trumpet is played by shutting a series of **valves**



# Technical things

## Padlock

The bike had been secured to the railings with a **padlock**



## Pump

The floodwater was extracted by means of a **pump**



# Scientific phrasal verbs



## Break through

To make a significant discovery

Scientists made a **breakthrough** in the study of quantum mechanics.

## Find out

To discover information

The scientists **found out** that the experiment yielded unexpected results.

## Bring about

To cause or initiate change

This invention will **bring about** a revolution in the industry

## Run into

To encounter a problem

During the experiment, they **ran into** some technical difficulties

## Come up with

To invent something new

The research team **came up with** an incredible solution to the problem

## Set up

To establish systems

It took them several hours **to set up** the new supercomputer

# At the cutting edge

Expressions





# Technical idioms

1. The final **nail** in the coffin
2. To call a **spade** a spade
3. To go down the **drain**
4. A weak link in the **chain**
5. To blow a **fuse**



## Technical idioms

1. With (no) **strings** attached
2. To get your **wires** crossed
3. To shoot your **bolt**
4. To get into **gear**
5. To twist the **knife**

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# Thanks!

Does anyone have any questions?