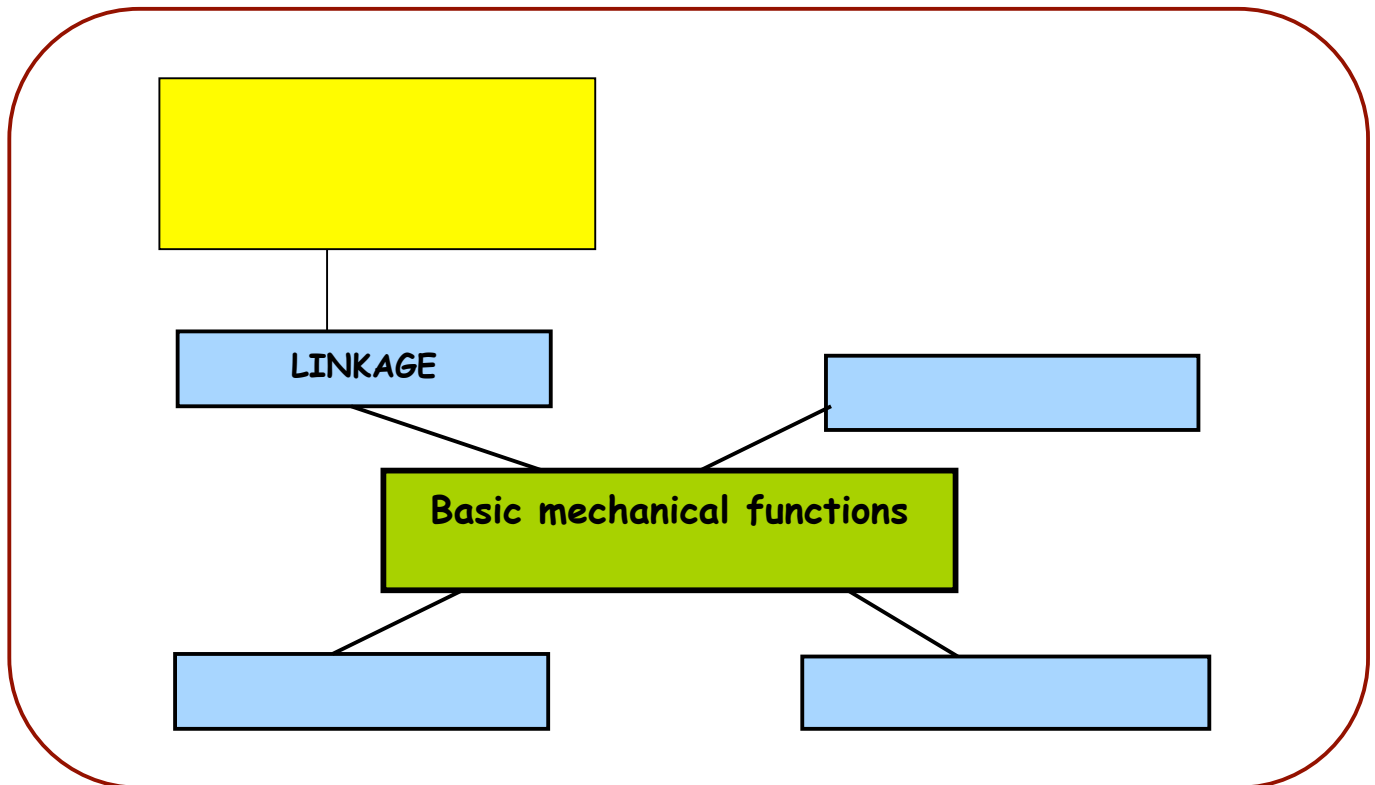


## BASIC MECHANICAL FUNCTIONS

Document to accompany the animation « Mechanisms 5.0 » available on the  
Centre de développement pédagogique's web site

<http://www2.cslaval.gc.ca/cdp/UserFiles/File/previews/mechanisms/>

Let's position ourselves a little...



## BASIC MECHANICAL FUNCTIONS

All parts or **organs** that make up a technical object have a **mechanical function**:

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The four **basic mechanical functions** are: \_\_\_\_\_

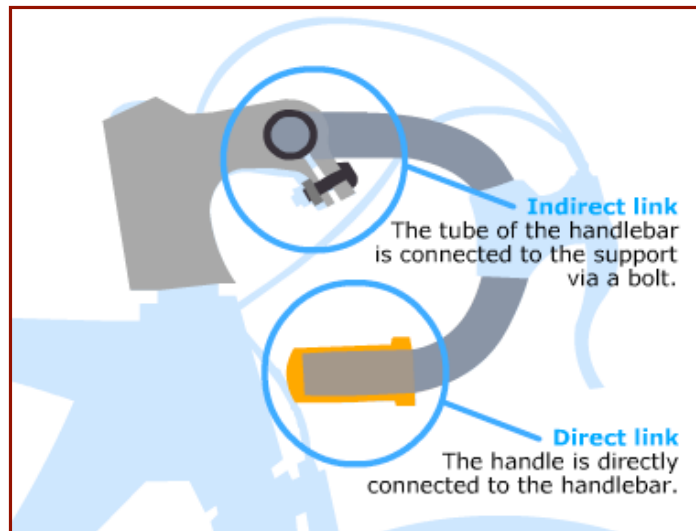
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### 1. LINKAGE

This is the function of a **part or organ** which joins pieces of an assembly together. It may also occur by the **complementary shape of parts**.

Links are analysed using their **characteristics**. A link may include four of the eight characteristics listed below.

1) A link may be **DIRECT** or **INDIRECT**.



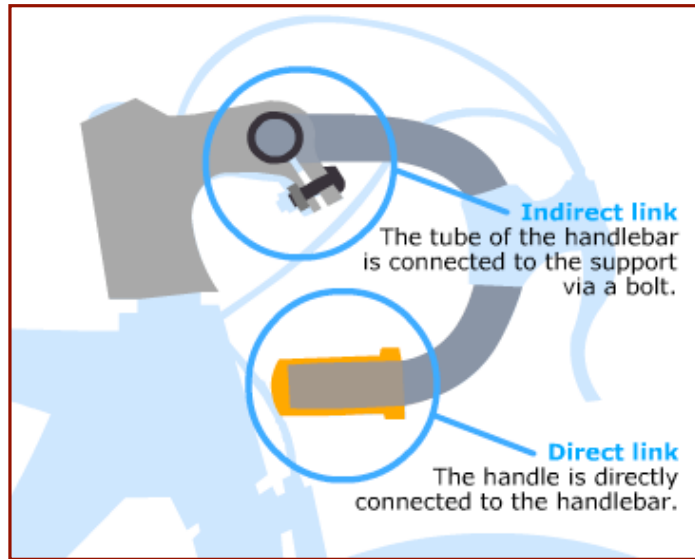
• **Direct:** \_\_\_\_\_

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• **Indirect:** \_\_\_\_\_

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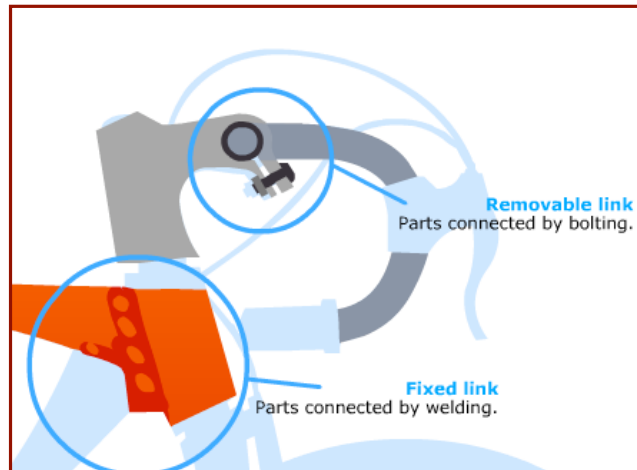
2) A link may be RIGID or FLEXIBLE.



• Rigid: \_\_\_\_\_

• Flexible: \_\_\_\_\_

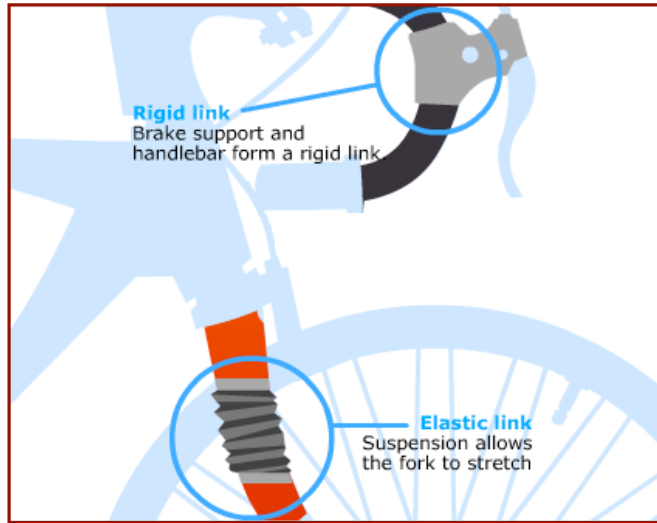
3) A link may have the ability to be REMOVABLE or may be PERMANENT.



• Removable: \_\_\_\_\_

• Permanent: \_\_\_\_\_

4) A link may be **PARTIAL** or **COMPLETE**



• **Complete:** \_\_\_\_\_

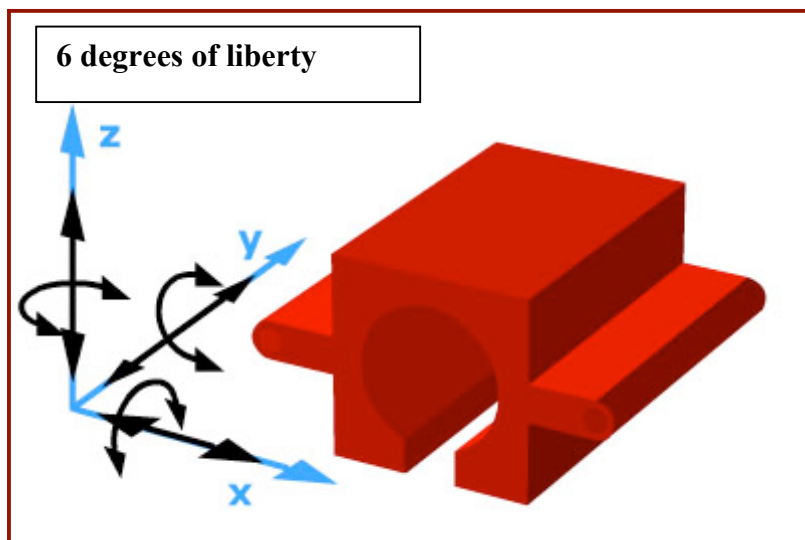
• **Partial:** \_\_\_\_\_

**Degrees of liberty of links**

In space, an organ which is not linked to another could be moved and would do so in all directions.

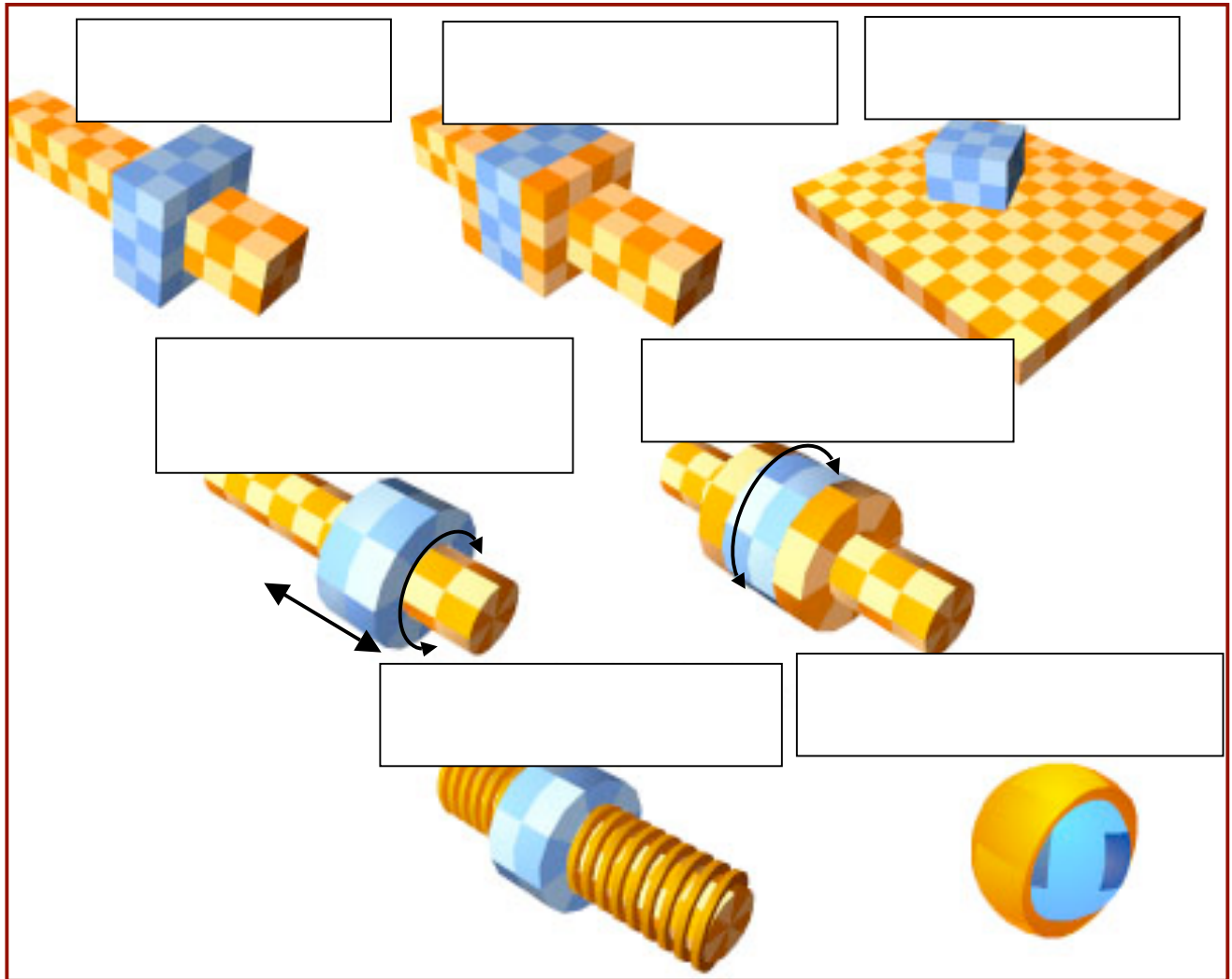
According to this image of a Cartesian plane, there are **\_\_\_ degrees of liberty** and **\_\_\_ possibilities for movement**.

Represent them on the axes.



## Types of links

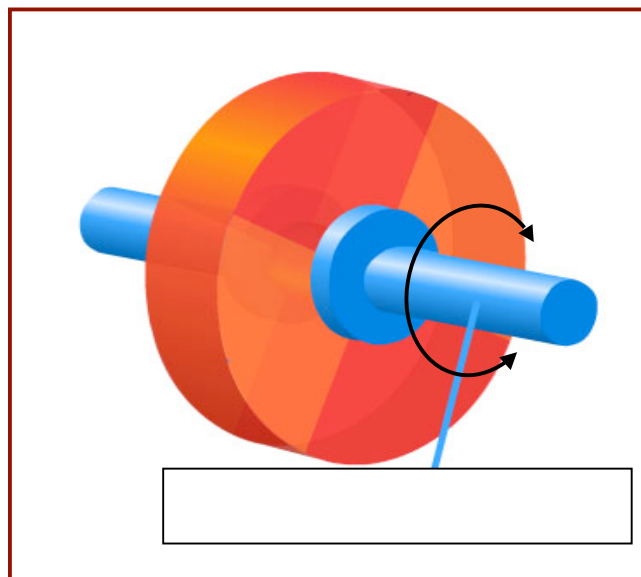
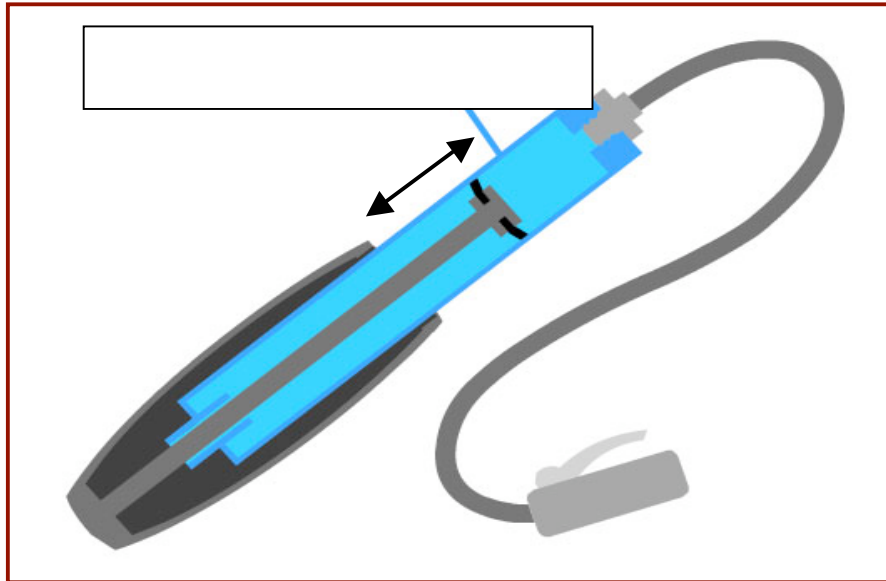
On the diagram below, identify the main types of links and give an example for each.



## 2. GUIDANCE

This is a function of a part which \_\_\_\_\_  
\_\_\_\_\_.

There are two types of guidance:



Linkage and guidance allow for \_\_\_\_\_  
\_\_\_\_\_.

### 3. LUBRICATION

This is the function of a \_\_\_\_\_.

There are 3 forms of lubricants: \_\_\_\_\_.



### 4. SEAL

This is the function of an organ that \_\_\_\_\_.

A seal may be obtained by \_\_\_\_\_.

Examples of organs often used to ensure seal:

