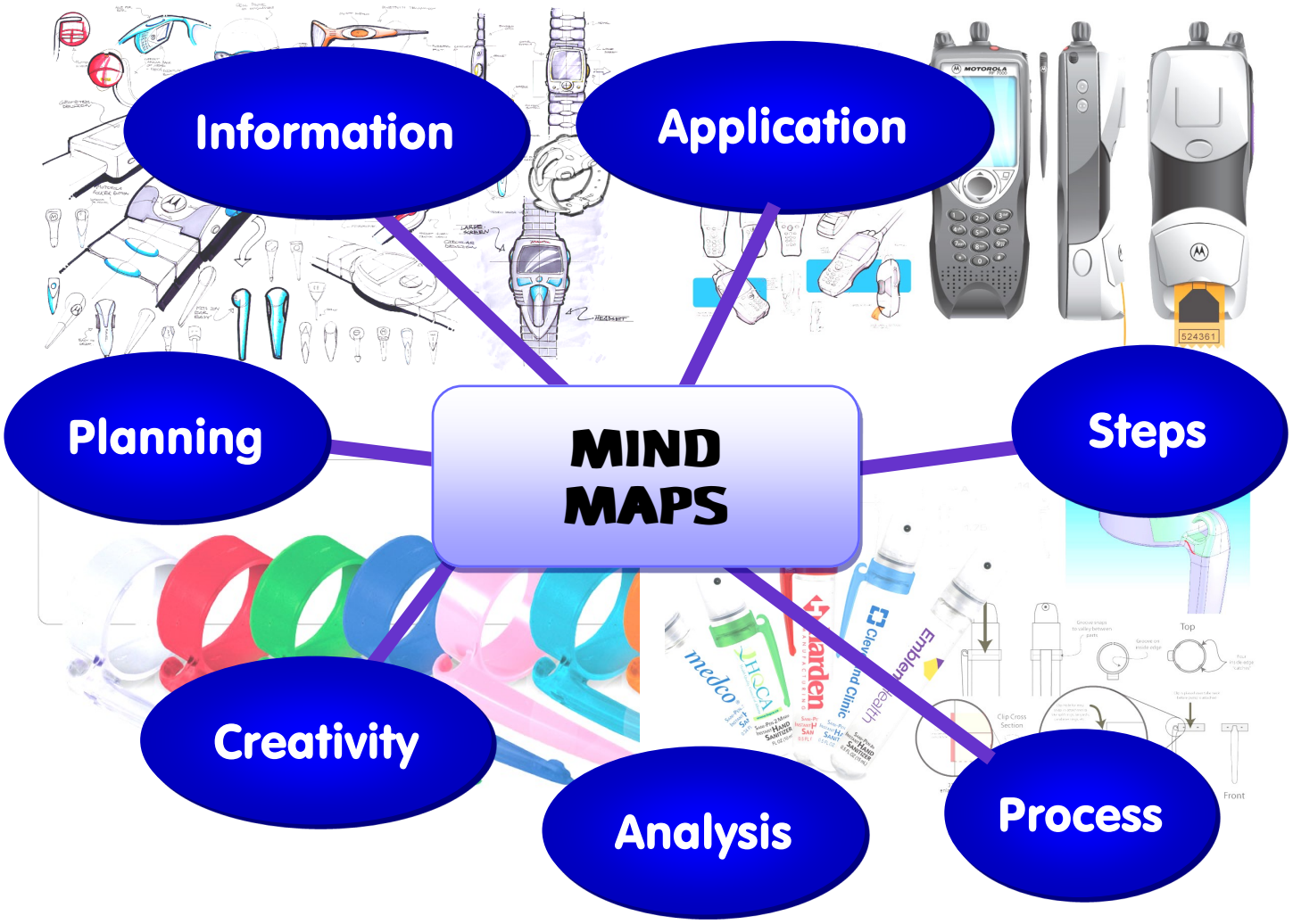
DTMIND MAPS



NAME.....

These mind maps are a visual thinking tool that helps structure information, helping to better analyse, understand, process, recall and plan. They are related to the information contained within the seven sections of the resource.

DT MIND MAPS

Definition:-

ERGONOMICS

Example of good ergonomics in Product 1:-

Example of good ergonomics in Product 2:-

ANTHROPOMETRICS

Useful areas of use :-

Definition:-

RESOURCES

Design & Innovation

DT MIND MAPS

RISK ASSESSMENTS

Step 1:-

Step 2:-

Step 3:-

Step 4:-

Step 5-

MUST REMEMBER THE FIVE STEPS

Risk Analysis when making products:

Manufacturing Process:-

Risk Analysis considered before releasing products on general sale, risks involved when USING the product

Product considerations:-

RESOURCES

Human Responsibilty

DT MIND MAPS

RESOURCES

Processes and Industrial Practice

MASS PRODUCTION

Definition:-

Features of products:-

Example of products:-

BATCH PRODUCTION

Definition:-

Features of products:-

Example of products:-

One Off PRODUCTION

Definition:-

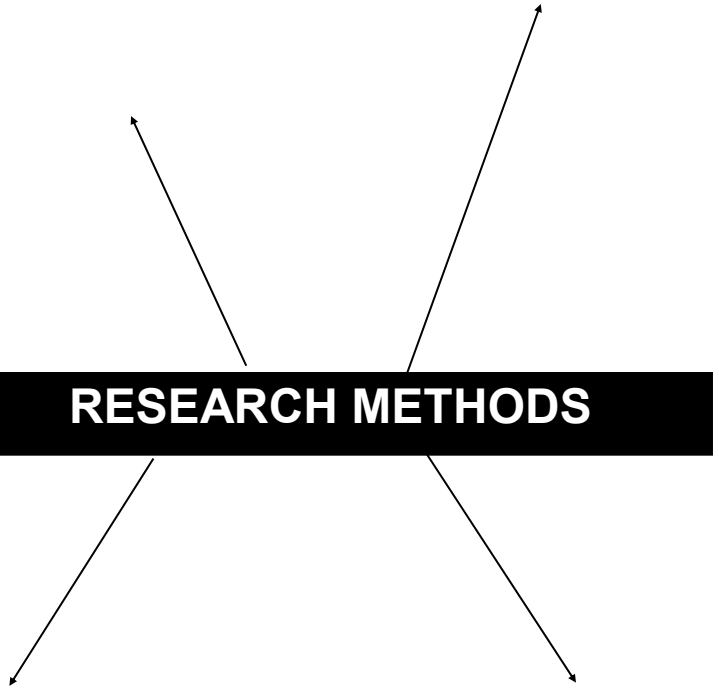
Features of products:-

Example of products:-

PRIMARY

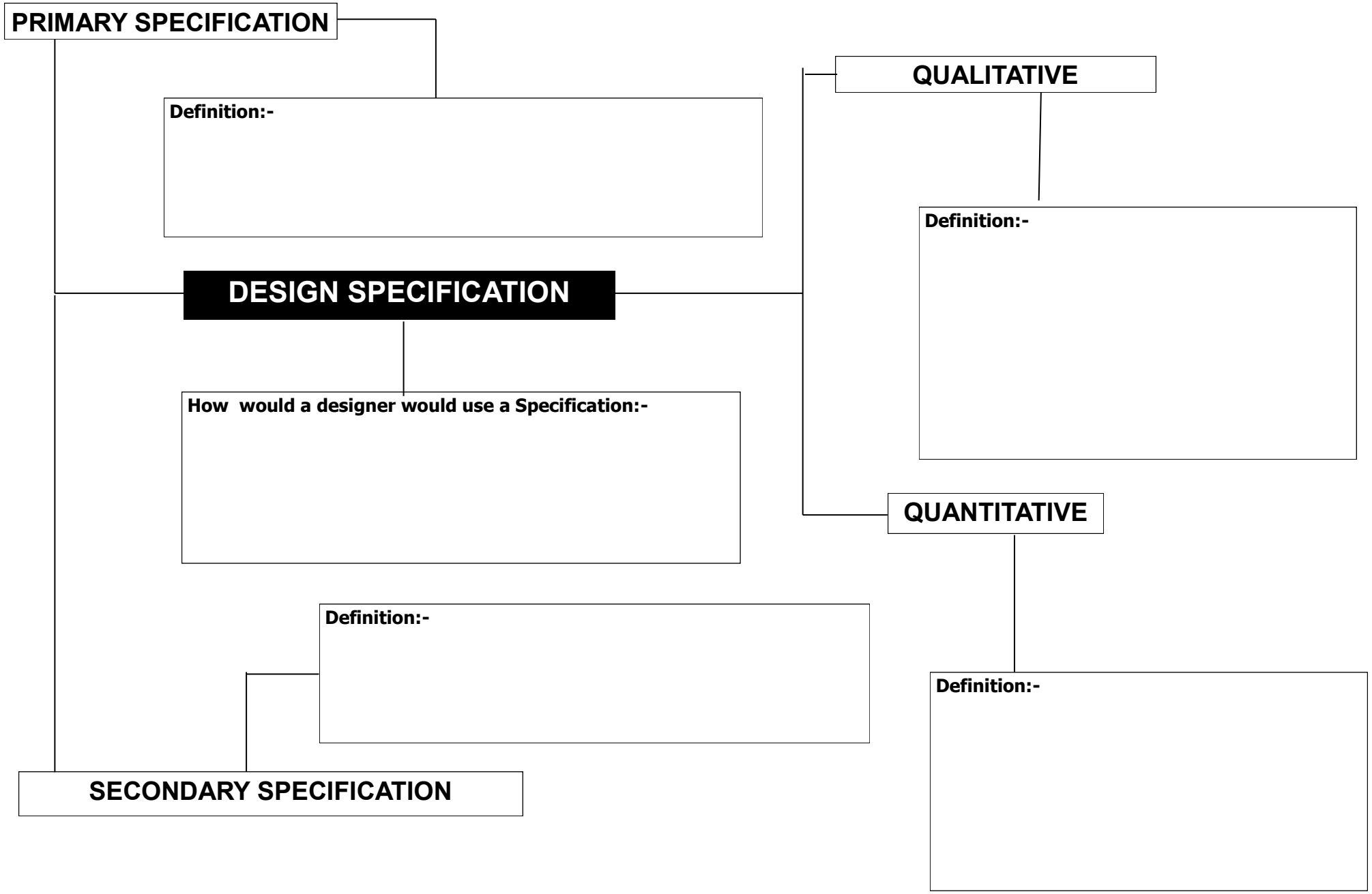
RESEARCHING

SECONDARY



RESOURCES

Design & Innovation


PRIMARY SPECIFICATION
Definition:-
QUALITATIVE
Definition:-
DESIGN SPECIFICATION
How would a designer would use a Specification:-
QUANTITATIVE
Definition:-
Definition:-
SECONDARY SPECIFICATION

DT MIND MAPS

NATURAL MATERIAL

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

SYNTHETIC MATERIAL

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

COMPOSITE MATERIAL

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

RESOURCES

Materials & Components

DT MIND MAPS

RE-GENERATED MATERIAL

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

POLYMERS

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

PERFORMANCE MATERIAL

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

RESOURCES

Materials & Components

DT MIND MAPS

ALLOYS

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

SMART MATERIAL

Name:
Properties:
Use:

Name:
Properties:
Use:

Name:
Properties:
Use:

QUALITY CONTROL

Definition:-

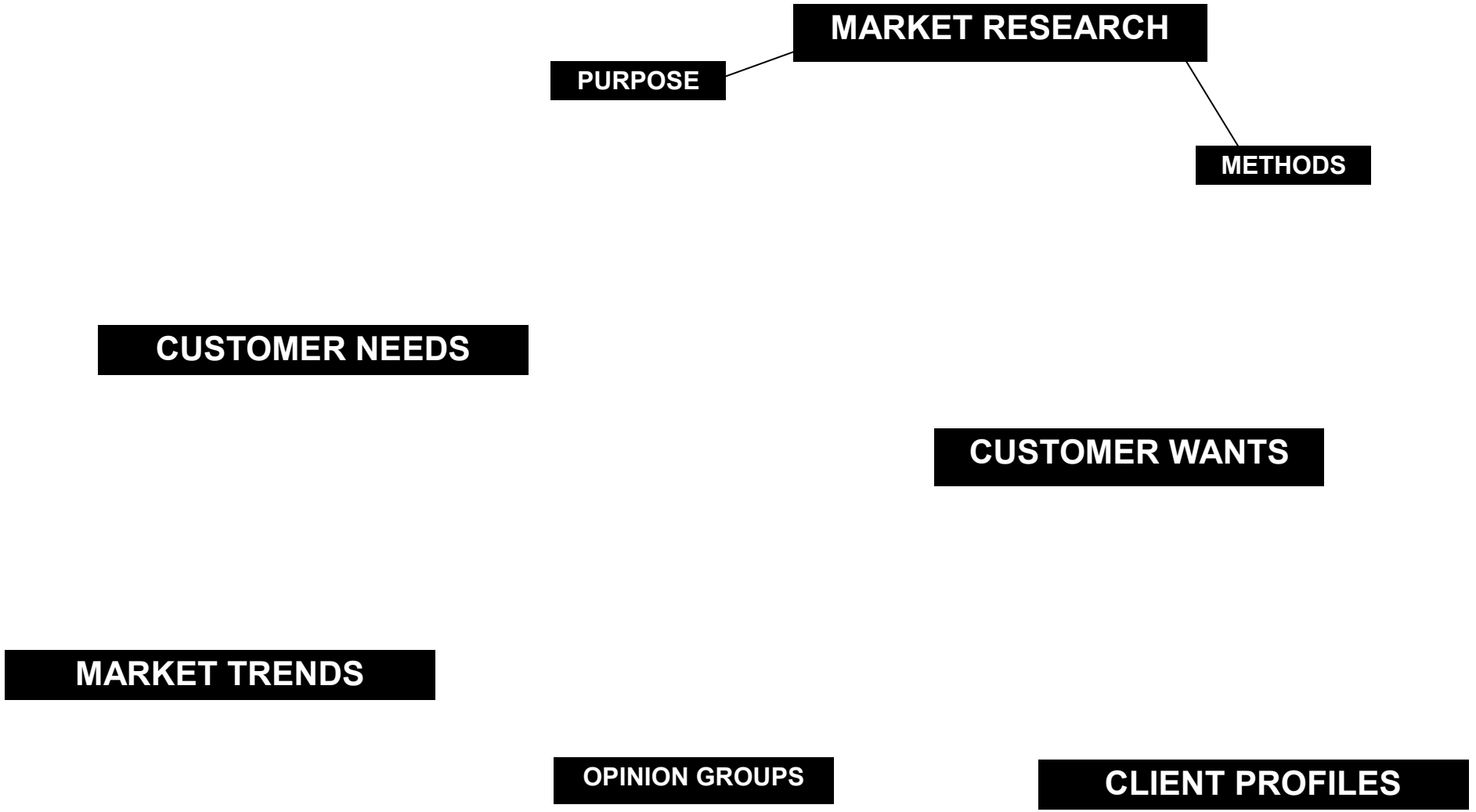
QUALITY ASSURANCE

Definition:-

RESOURCES

Processes and Industrial Practice

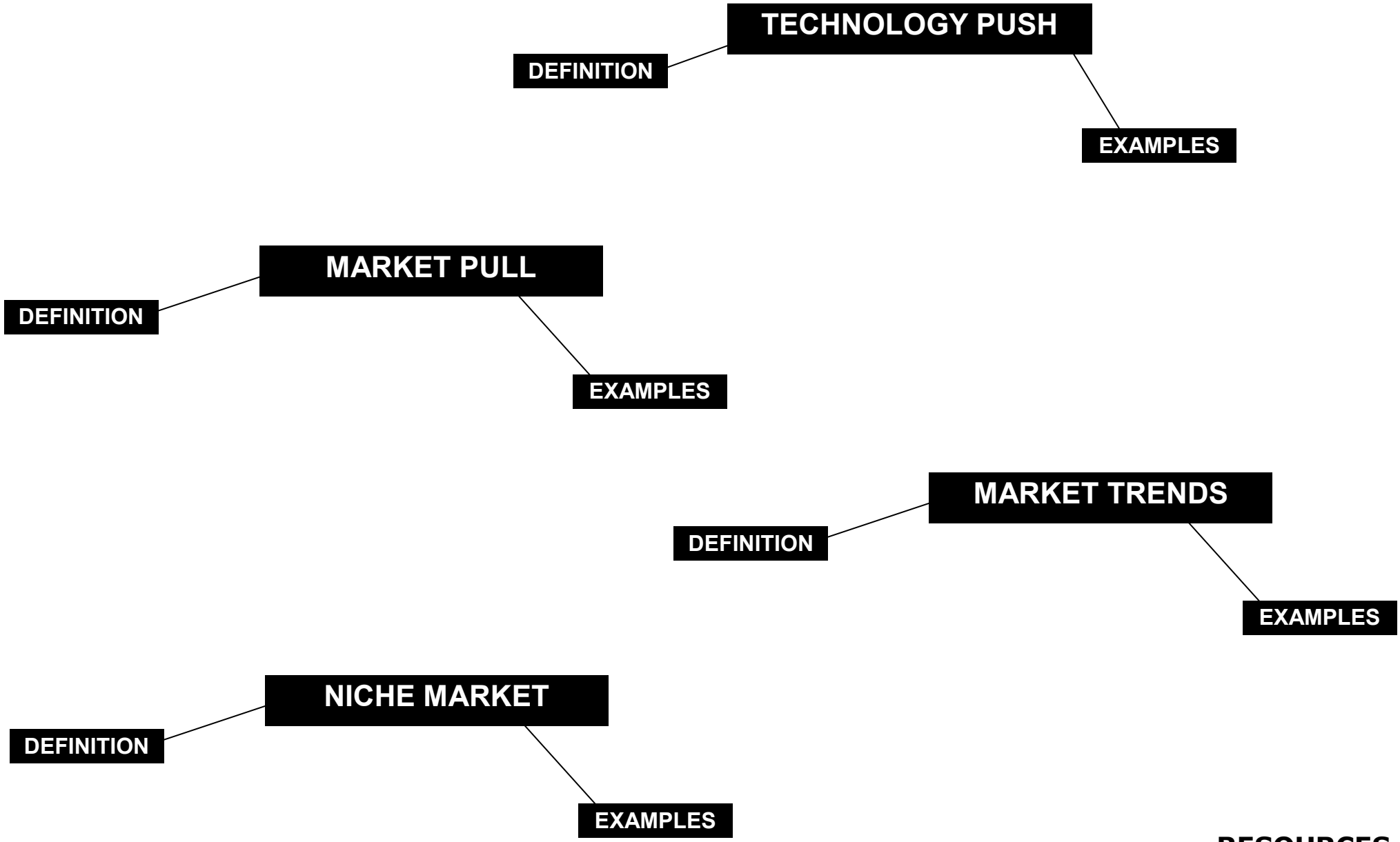
DTMIND MAPS



RESOURCES

Public Interaction

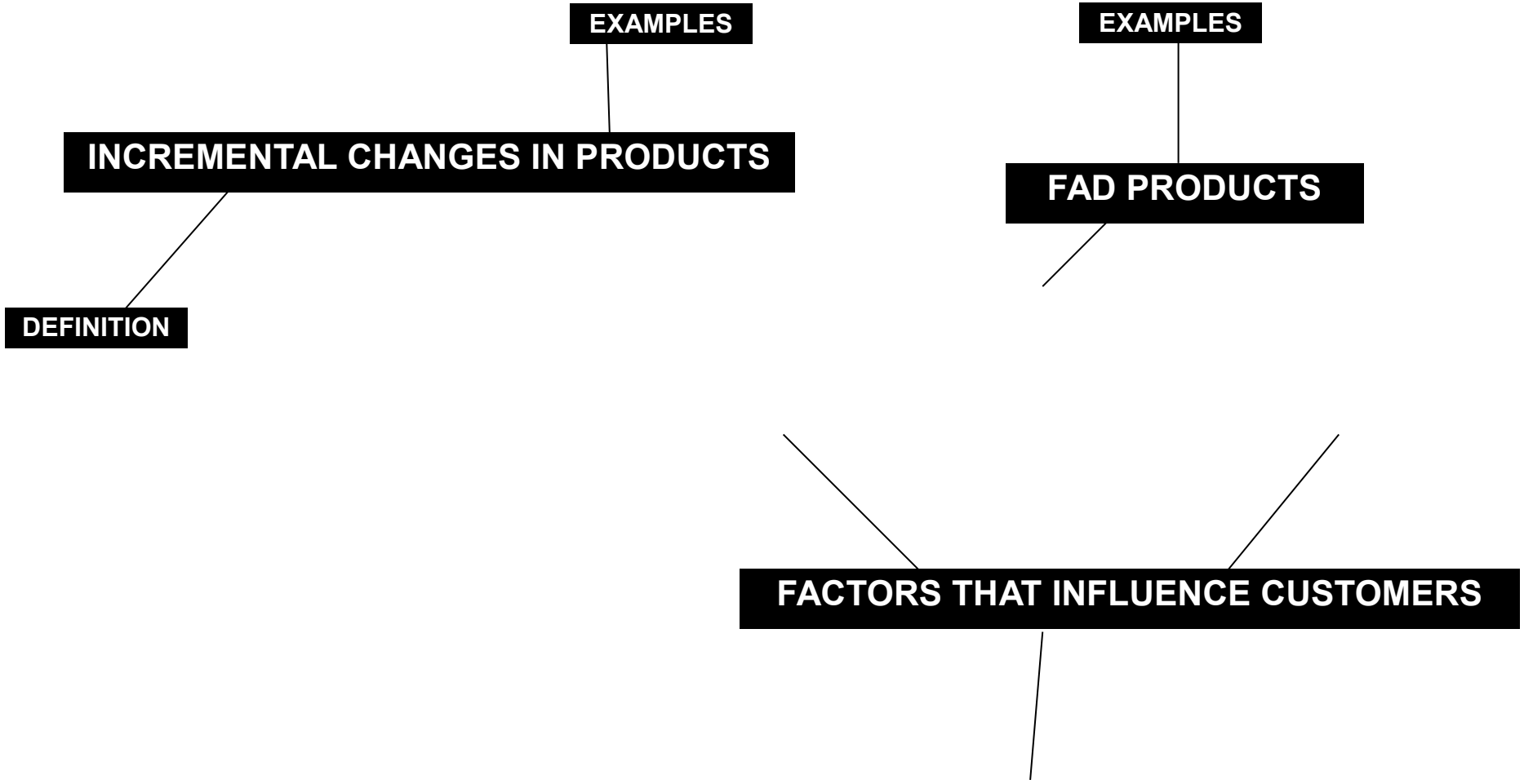
DT MIND MAPS



RESOURCES

Public Interaction

DT MIND MAPS

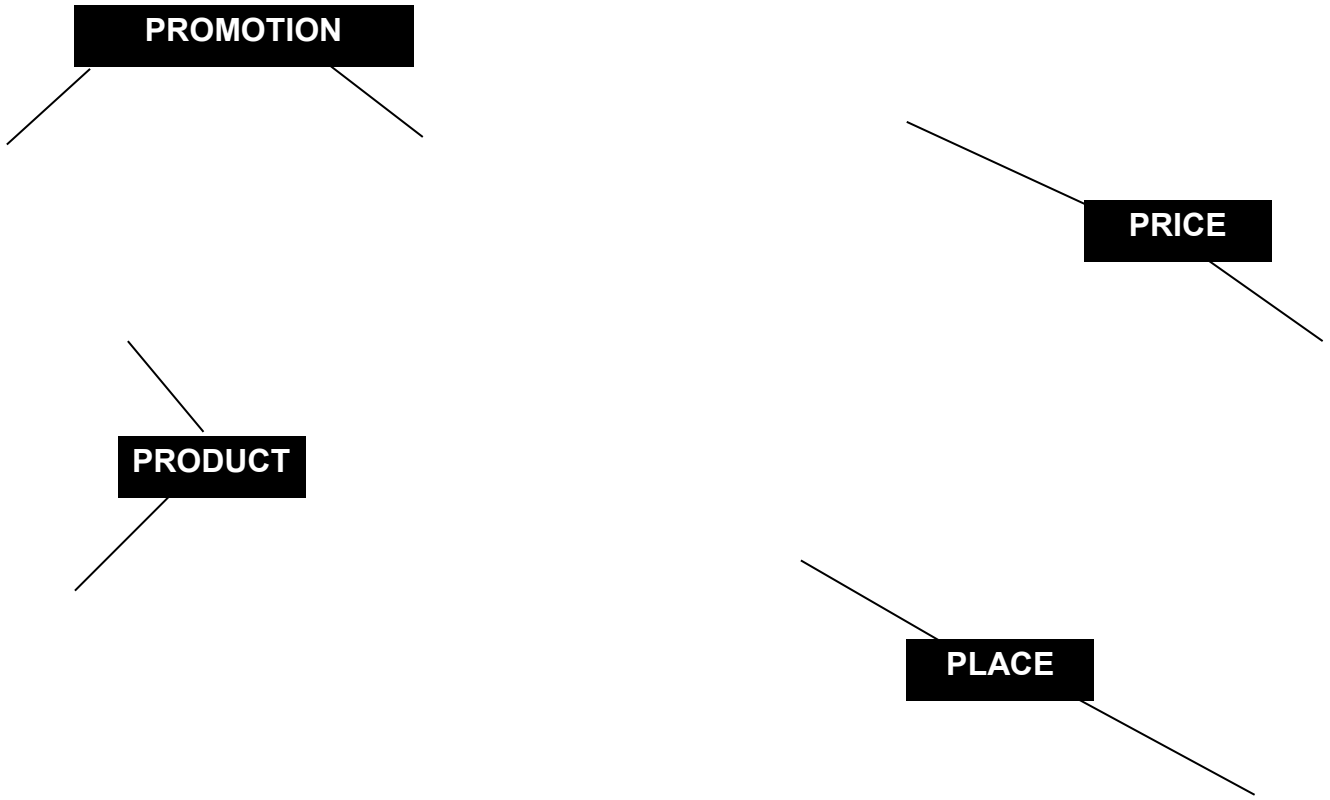


THINK OF EXAMPLES FOR NAMED PRODUCTS

RESOURCES

Design & Innovation
Product Analysis & Systems

4 P'S Marketing



Make sure that you REMEMBER these FOUR points and be able to explain what they are

RESOURCES

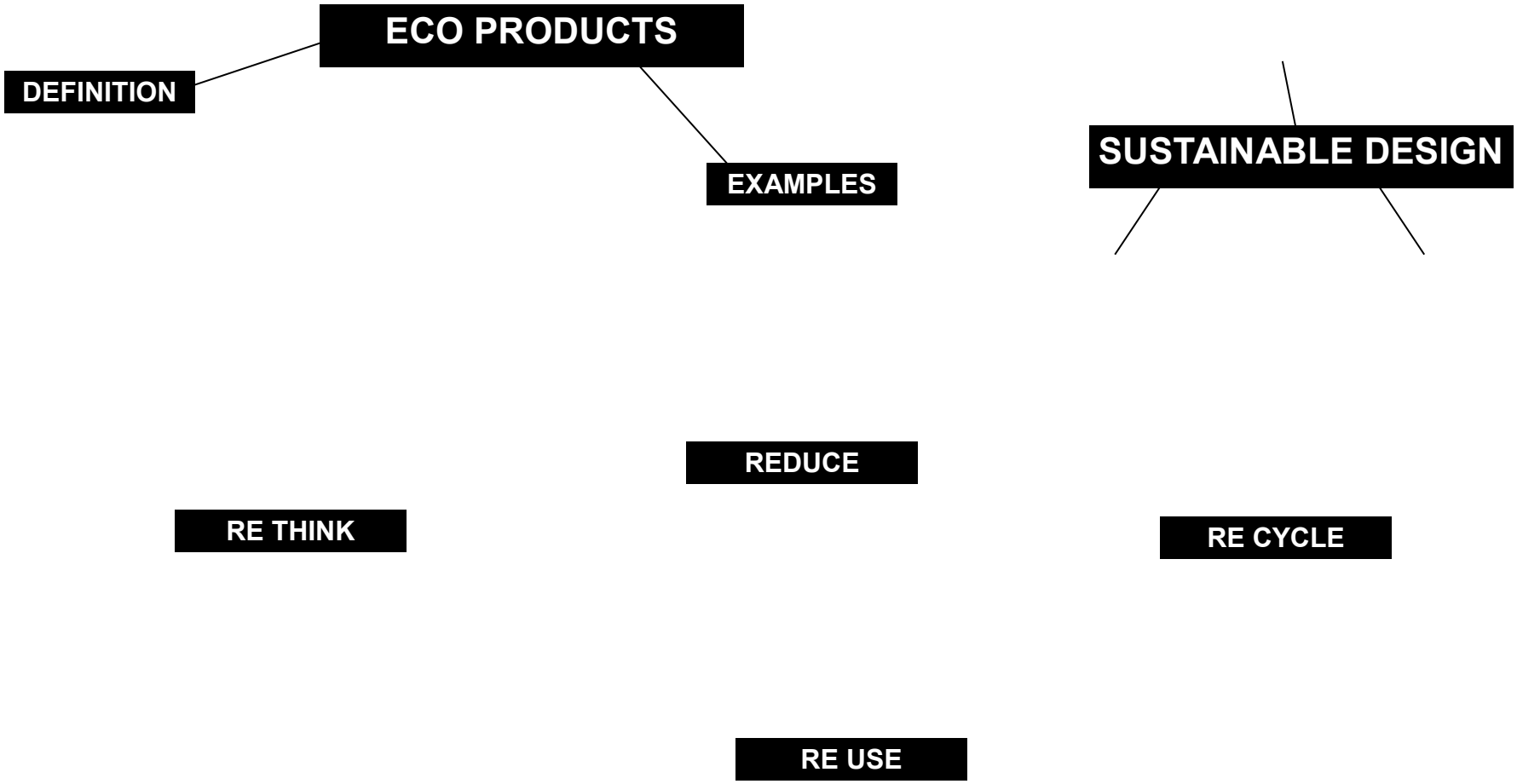
Public Interaction

DT MIND MAPS

RESOURCES

Product Analysis & Sytems / Public Interaction

Products that have been re designed due to environmental issues



RESOURCES

Human Responsibility

LIFE CYCLE ANALYSIS OF PRODUCTS (LCA)

Effect on environment for entire life of products:-

1. Manufacturing the product
2. Using the product
3. Disposal of product

Products:-

1. Washing Machines
2. Mobile phones

RESOURCES

Design & Innovation

RESPONSIBILITIES WHEN DESIGNING

ENVIRONMENTAL CONSIDERATIONS

SAFETY FOR THE CUSTOMER

CONSUMER NEEDS

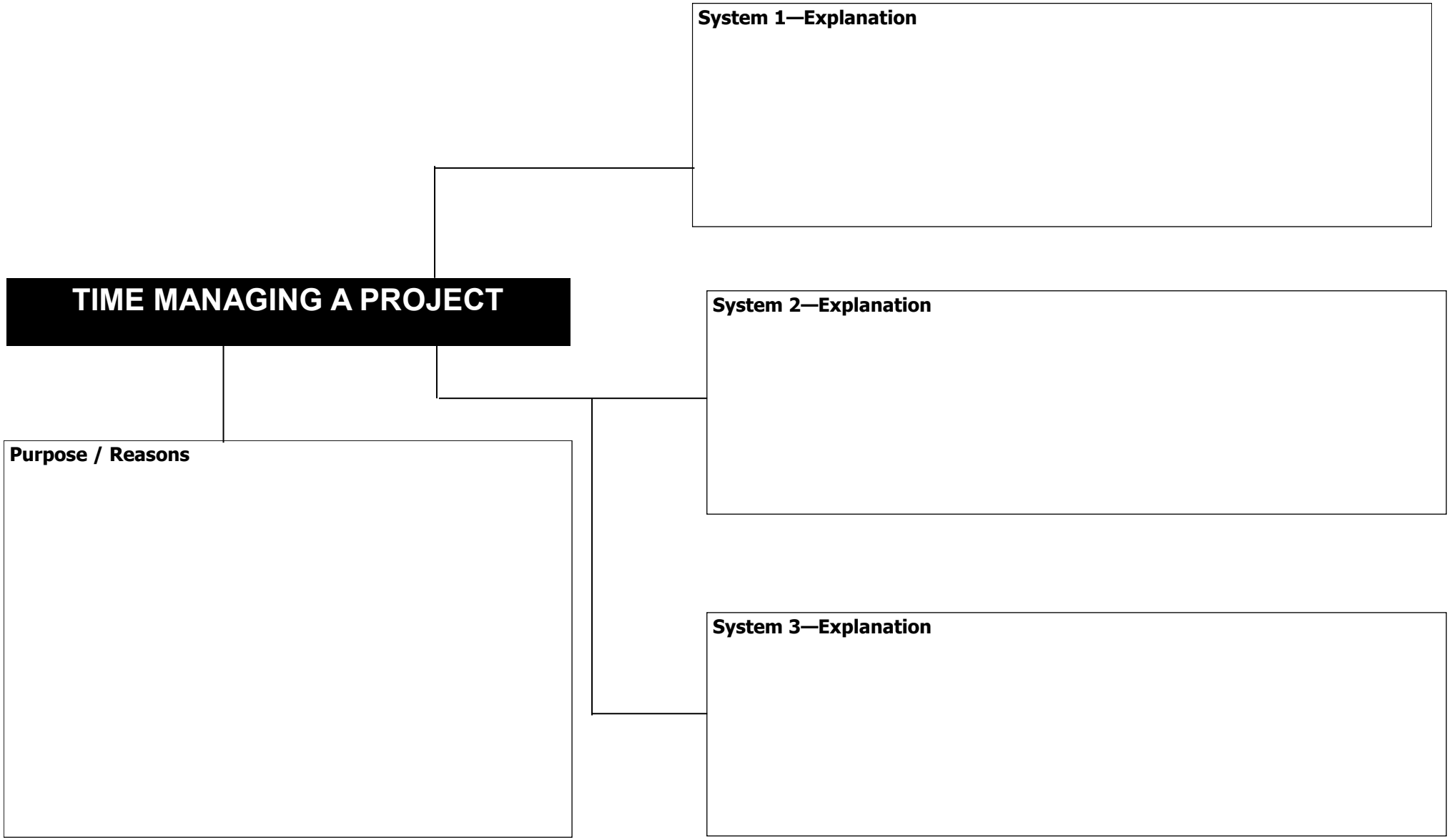
- YOUNG CHILDREN
- ELDERLY
- DISABLED

MAINTENANCE
[Repair, Looking after]

RESOURCES

Product Design

DT MIND MAPS



RESOURCES

Processes and Industrial Practice

DT MIND MAPS

PRODUCT MODELLING PROTOTYPING

Explanation;-

2D PROTOTYPING

3D PROTOTYPING

PERFORMANCE MODELLING

SUITABLE MATERIALS

ADVANTAGES

DISADVANTAGES

RESOURCES

Processes & Industrial Practices

DT MIND MAPS

CAD

Definition:-

ADVANTAGES

DISADVANTAGES

RAPID PROTOTYPING

CAM

Definition:-

ADVANTAGES

DISADVANTAGES

RESOURCES

Processes and Industrial Practice

DTMIND MAPS

Definition/Purpose for designer

INTELLECTUAL PROPERTY

COPYRIGHT

Main Features

PATENTING

Main features

DESIGN RIGHTS

Main features

TRADEMARK

Main Features

RESOURCES

Product Analysis & Systems

RESOURCES

Product Analysis & Systems

DT MIND MAPS

AESTHETICS

RELIABILITY

ABOVE THE LINE

Definition

Features

BELOW the LINE

Definition

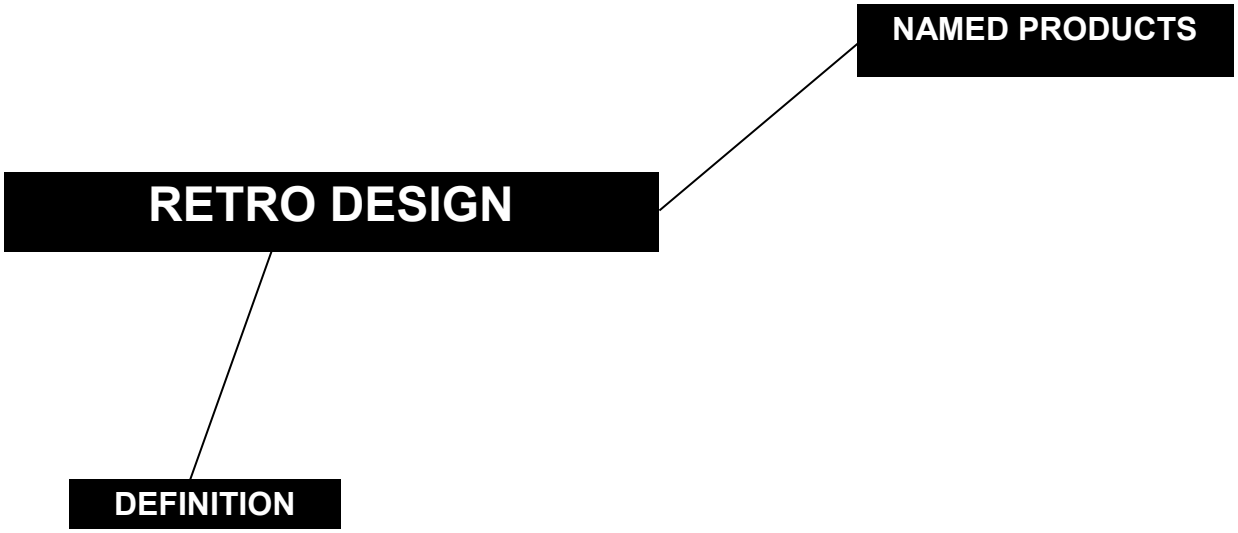
Features

FUNCTION

RESOURCES

Design & Innovation

DT MIND MAPS



RESOURCES

Product Analysis & Systems

DT MIND MAPS

INDUSTRIAL MANUFACTURING

CELL PRODUCTION

Explanation:-

ASSEMBLY LINE PRODUCTION

Explanation:-

JUST IN TIME

Explanation:-

RESOURCES

Processes and Industrial Practice

MATERIALS

POLYPROPYLENE

Working characteristics

Uses

KEVLAR

Working characteristics

Uses

COTTON

Working characteristics

Uses

STAINLESS STEEL

Working characteristics

Uses

NYLON

Working characteristics

Uses

ACRYLIC

Working characteristics

Uses

RESOURCES

Materials & Components

Smart MATERIALS

NITINOL

Working characteristics

Uses

HALOCHROMIC MATERIAL

Working characteristics

Uses

PHOTOCHROMATIC INK

Working characteristics

Uses

Piezo electric ceramics

Working characteristics

Uses

RESOURCES

Materials & Components

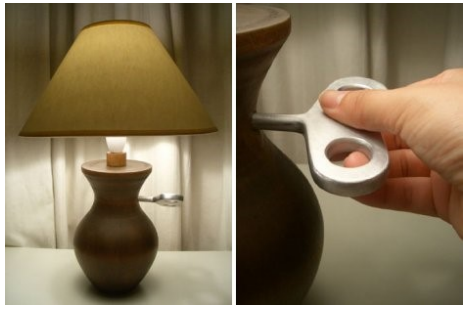
ENVIRONMENTAL ISSUES

PRODUCTS RE –DESIGNED TO HELP ENVIRONMENT

REDUCE

RE-USE

RE-CYCLE



RESOURCES

Product Analysis & Systems

IMPROVEMENT TO PRODUCTS DUE TO NEW MATERIALS

1960S

FUNCTIONAL CHANGES

2015

AESTHETICAL CHANGES

RESOURCES

Product Analysis & Systems

PROBLEM SOLVING STRATEGIES
DESIGN STRATEGIES

INVERSION

LATERAL THINKING

BRAINWRITING
BRAINSTORMING

MORPHOLOGICAL ANALYSIS

REVERSE ENGINEERING

RESOURCES

Design & Innovation

MANUFACTURING PROCESSES

CASTING

Explanation:-

Products made this way

Materials suitable to use

FABRICATION

Explanation:-

Products made this way

Materials suitable to use

WASTING

Explanation:-

Products made this way

Materials suitable to use

RESOURCES

Processes and Industrial Practice

MANUFACTURING PROCESSES

INJECTION MOULDING

Explanation:-

Products made this way

Materials suitable to use

BLOW MOULDING

Explanation:-

Products made this way

Materials suitable to use

WASTING

Explanation:-

Products made this way

Materials suitable to use

RESOURCES

Processes and Industrial Practice

JOINING MATERIALS

PERMANENT METHODS

SIMILAR MATERIALS

TEMPORARY METHODS

DIS-SIMILAR MATERIALS

RESOURCES

Materials & Components

Finishing MATERIALS

REASONS WHY

AESTHETICS

PROTECTION

Types of FINISHES *[Materials]*

RESOURCES

Materials & Components

DTMIND MAPS

DESIGNER

Jonathan Ive

Why product was designed?

Why is this product so special?

How did the imac influence other designs?

RESOURCES

Design & Innovation

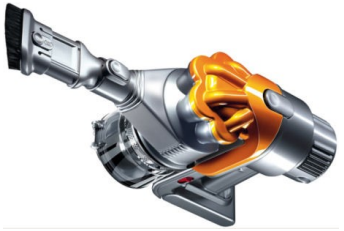
DTMIND MAPS

DESIGNER

Why product was designed?

James Dyson

Why is this product so special?



How did the dyson vac cleaner influence other designs?

RESOURCES	
Book 1	Design & Innovation

DTMIND MAPS

DESIGN MOVEMENTS

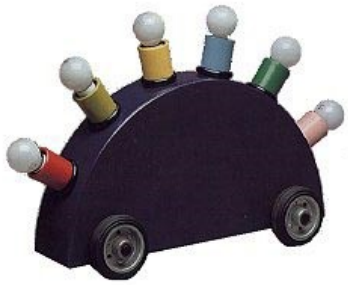
Memphis Design 1970's

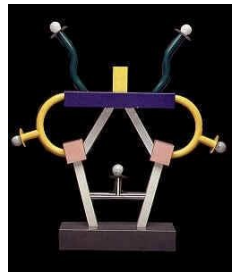
Ettore Sottsass

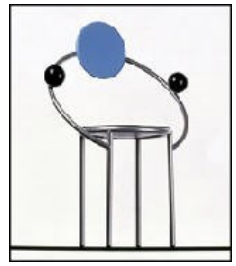
Reasons for movement ?

Effect on design?

History of Memphis Design?







DTMIND MAPS

DESIGN MOVEMENTS

BAUHAUS - 1920s

Walter Gropius

Reasons for movement?

Influence on current products?

History of Bauhaus?

ETHICAL ISSUES WITH DESIGN

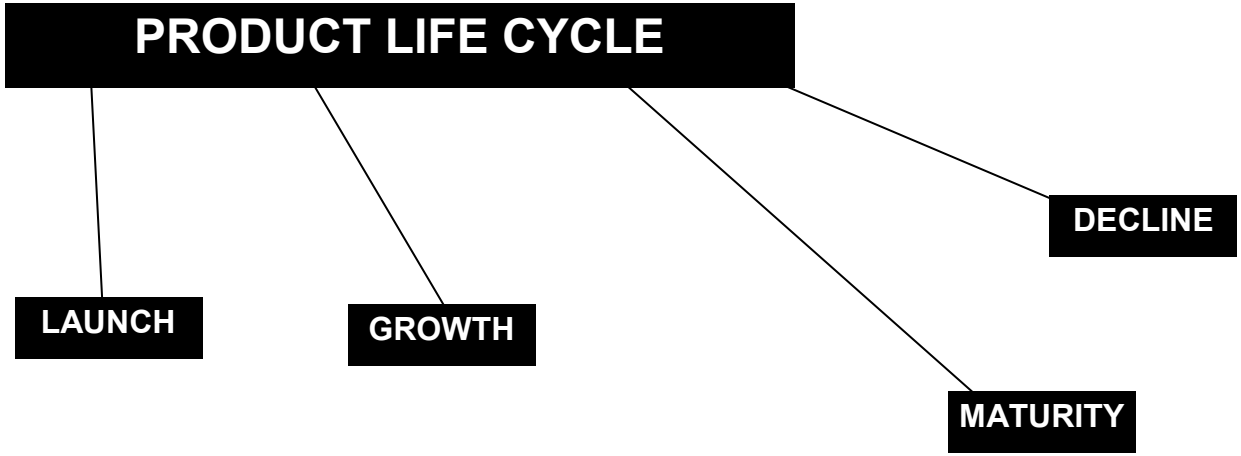
MORAL ISSUES WITH DESIGN

SOCIAL ISSUES WITH DESIGN

GLOBAL MANUFACTURING

RESOURCES

Global Manufacturing



Example of products:-

RESOURCES

Public Interaction

DT MIND MAPS

PRODUCT DEVELOPMENT

Products that have changed due to designers over the past 25 yrs

JAMES DYSON

Most manufacturers now consider the aesthetics of computers. Before, only the function was important ie. Processor speed & memory.

JONATHAN IVE

Examples from other manufacturers

BAD DESIGNS

NUCLEAR POWER

Not total design

TOTAL DESIGN - PRODUCT DESIGNED WITH THOUGHT OF HOW THE PRODUCT WILL AFFECT THE ENVIRONMENT FROM MANUFACTURE TO DISPOSAL
- NUCLEAR POWER - *Good idea to create energy, but they don't know what to do with the waste yet. Bury it in the ground until they find a solution!!*

DT MIND MAPS

Innovative use of Materials by designers in reaction to environmental issues

Macbook Air - GREEN MACHINE