



Cell Division : Mitosis

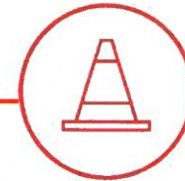
1 2 3 4 5

Centromeres

chromatides

cytokinesis

centrioles



WARNING

Be careful not to mix up centrioles with centromeres



TT

Stem Cells

Stem Cells



Totipotent

Pluripotent

Multipotent

Cell Specialisation / Differentiation



Unipotent



Stem Cells & Medicine



Bone Marrow Transplant



Advantages



Grow New Organs

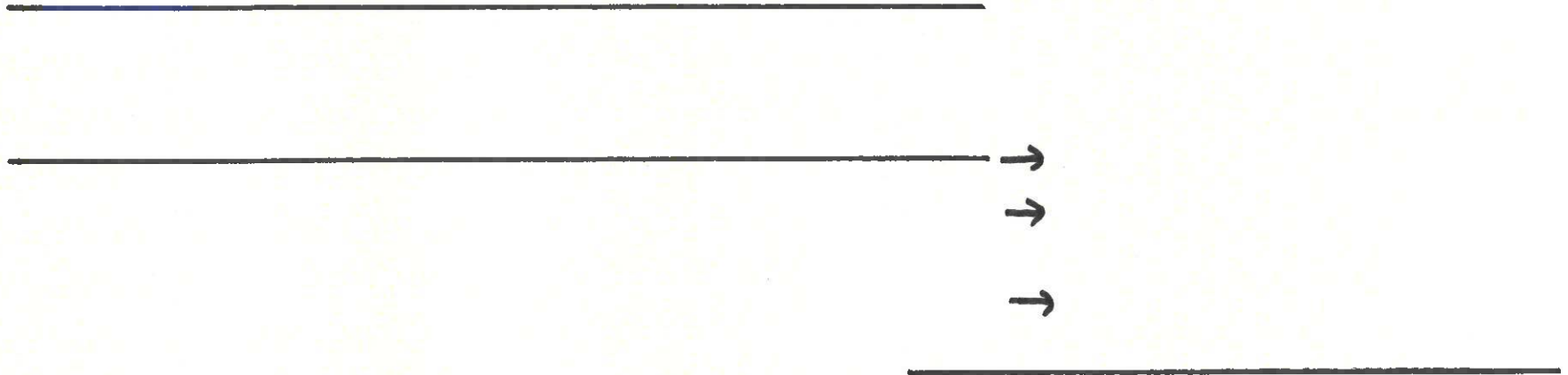


Ethical Issues

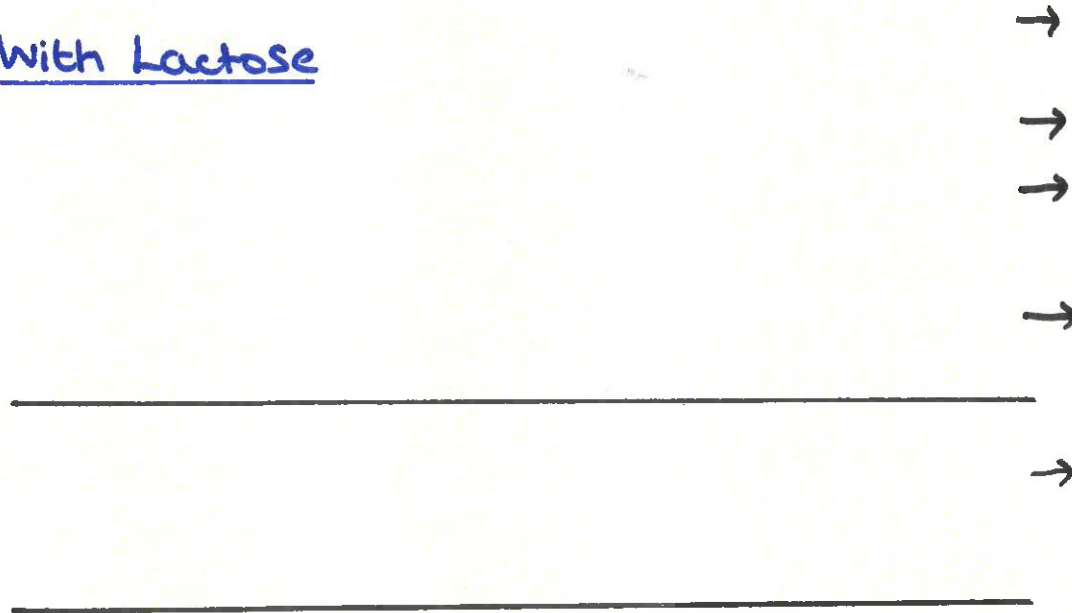


The Lac Operon

No Lactose



With Lactose



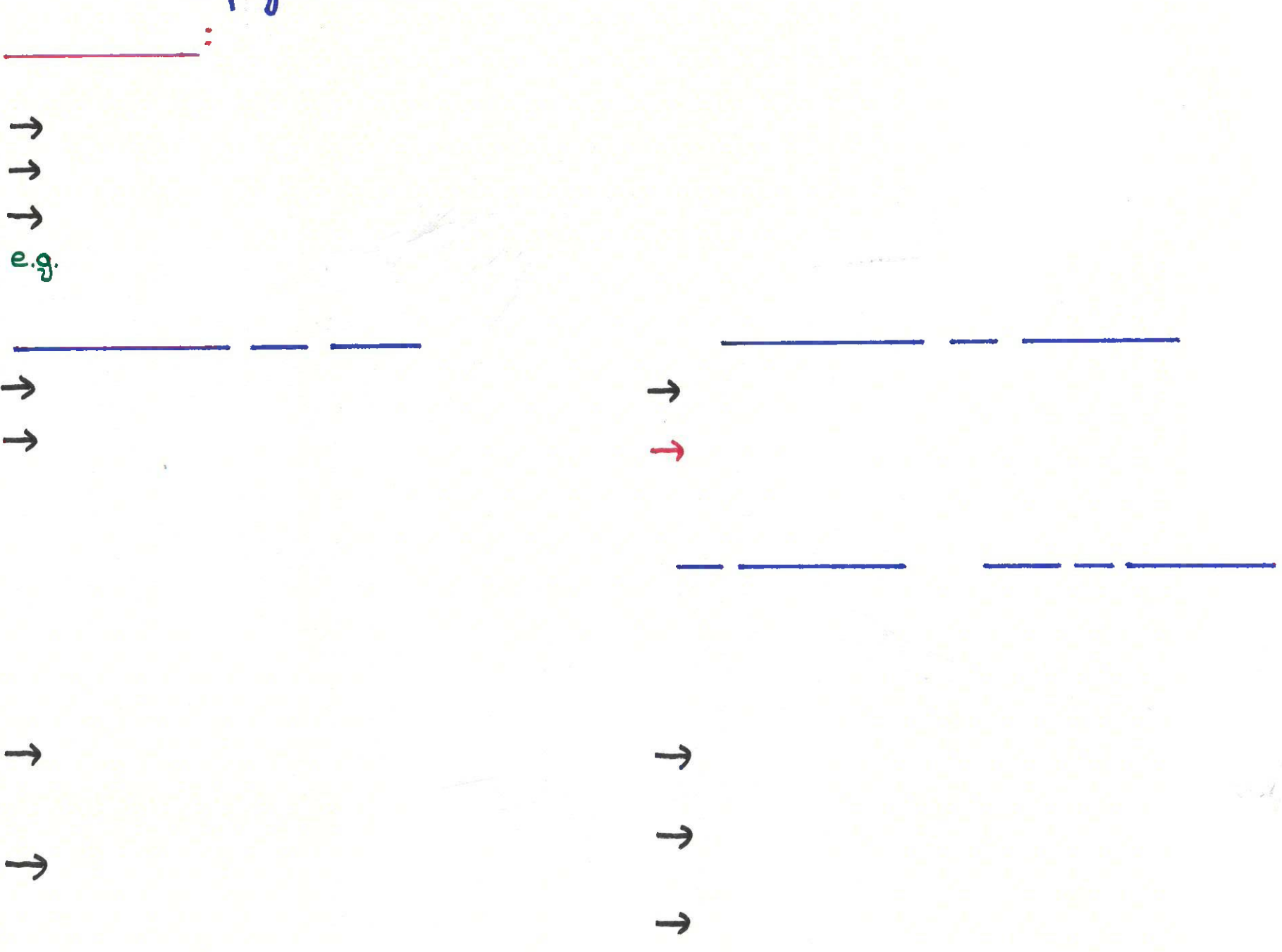


Epigenetics

Epigenetics

1 2 3 4 5

CpG site



Methyl Group

Acetyl Group

Histones



TT

Specialised
Cells

Specialised
Cell

Tissue

Organ

Organ System

Eukaryotic Cells

Cell Organisation

_____ : →
 →

Specialised Cell

Tissue

Organ

Organ System