1 First Floor

What is Cellular Respiration?

2 Second Floor

Glycolysis

3 Third Floor

The Mighty Mitochondria

4 Fourth Floor

The Room Where it Happens

5 Fifth Floor

ATP - it gives you wings.

6 Sixth Floor

Aerobic Respiration

7 Seventh Floor

Anaerobic Respiration

8 Eighth Floor

Lactic Acid Fermentation

9 Ninth Floor

Alcohol Fermentation

10 Tenth Floor

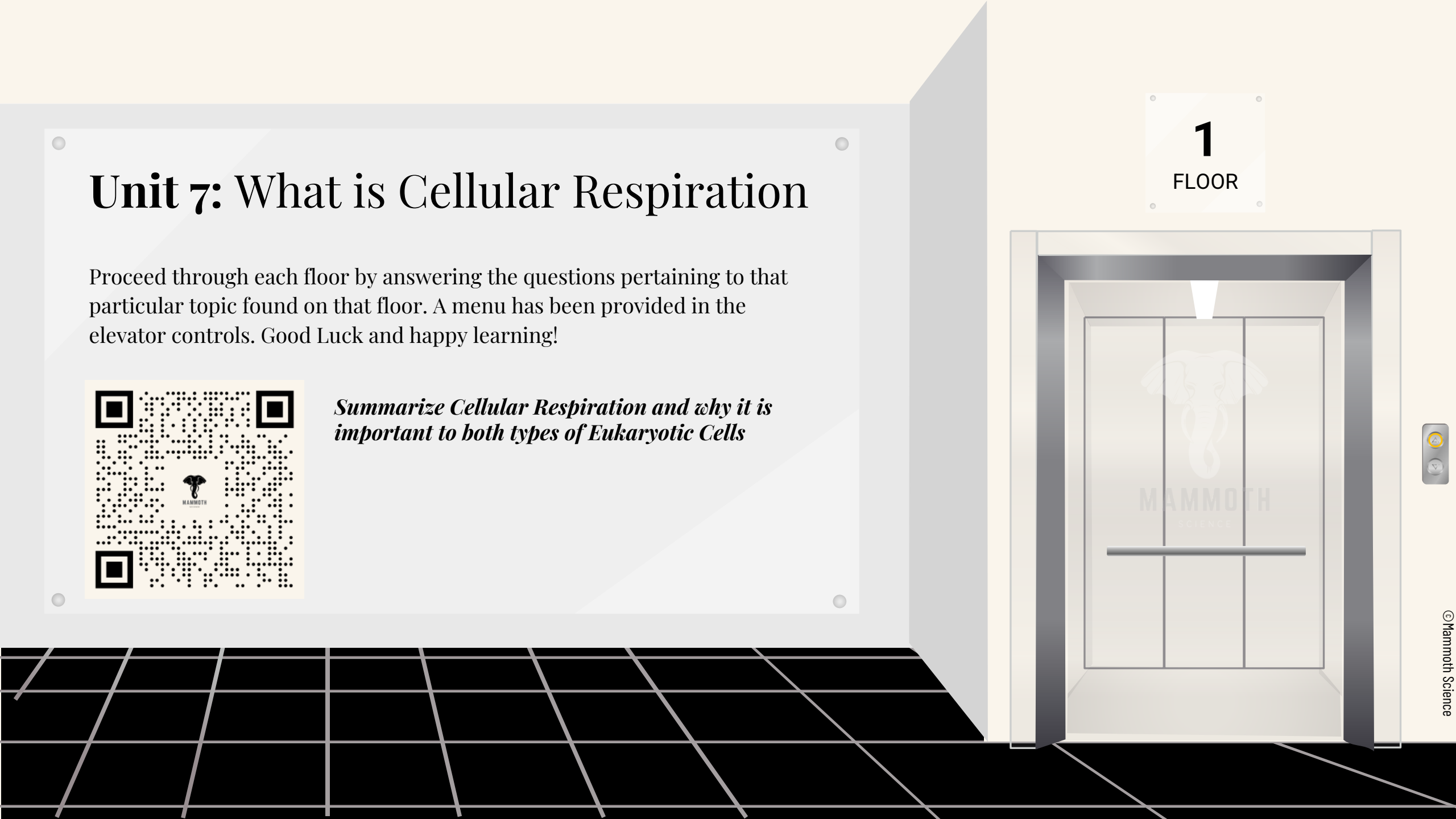
Putting it Together - Jamboard

MAMMOTH SCIENCE

Unit 7: What is Cellular Respiration

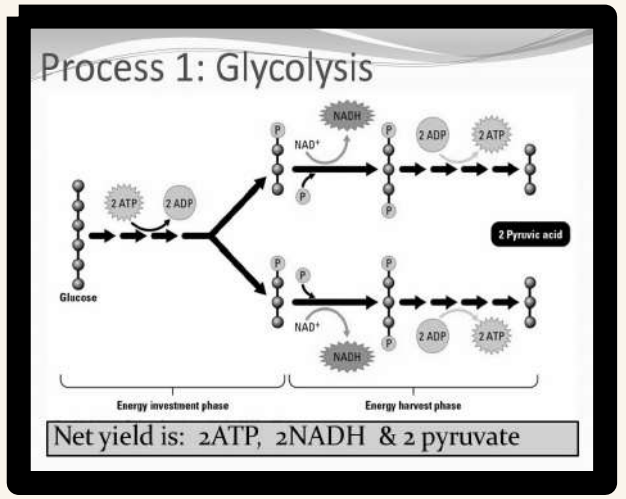
Proceed through each floor by answering the questions pertaining to that particular topic found on that floor. A menu has been provided in the elevator controls. Good Luck and happy learning!

Summarize Cellular Respiration and why it is important to both types of Eukaryotic Cells



Glycolysis

1. Briefly describe the possible metabolic fates of pyruvate produced by glycolysis in humans, and explain the circumstances that favor each. (*Think Aerobic vs Anaerobic*)




The Mighty Mitochondria
Structure
Summary
3
FLOOR
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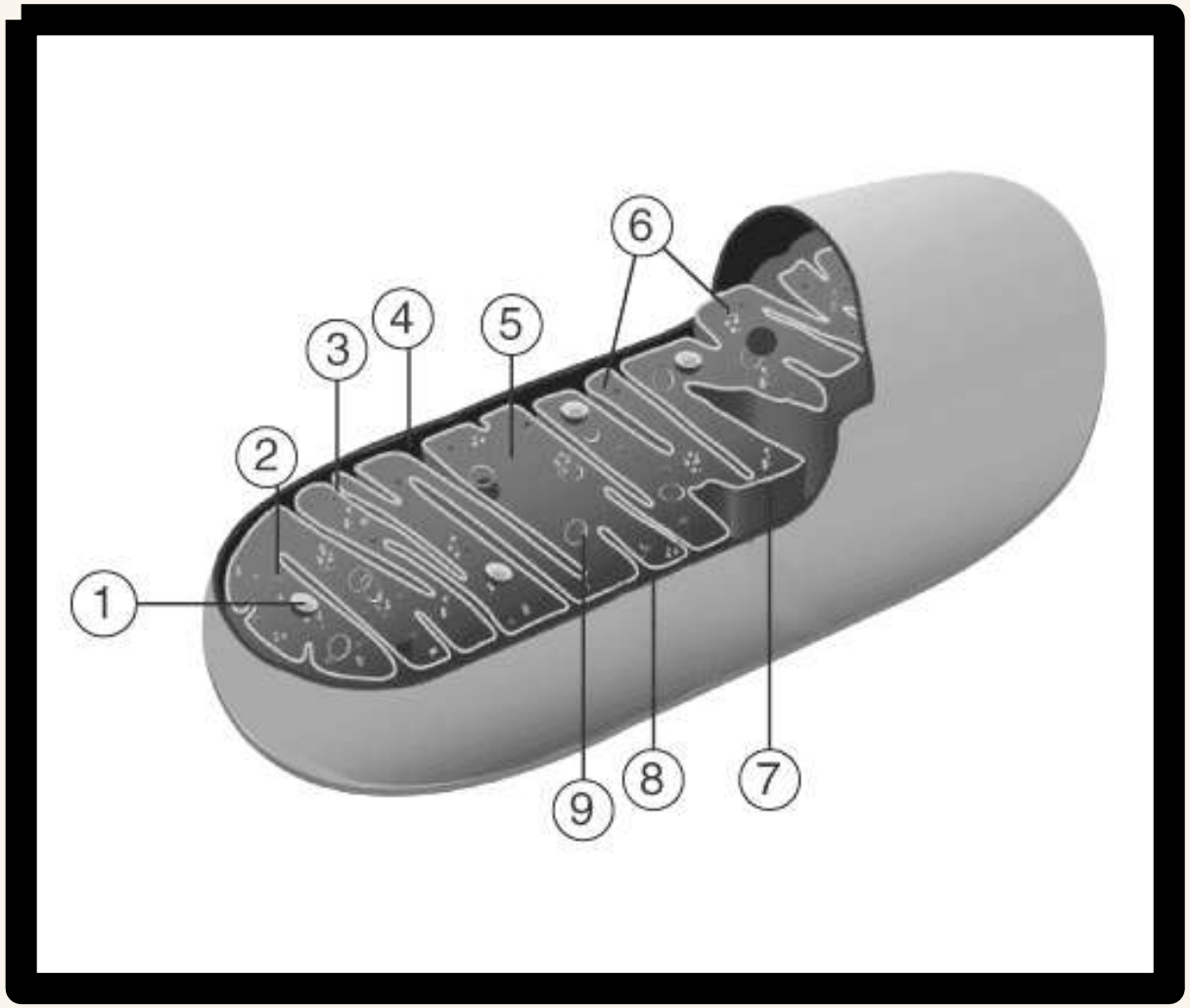
Structure

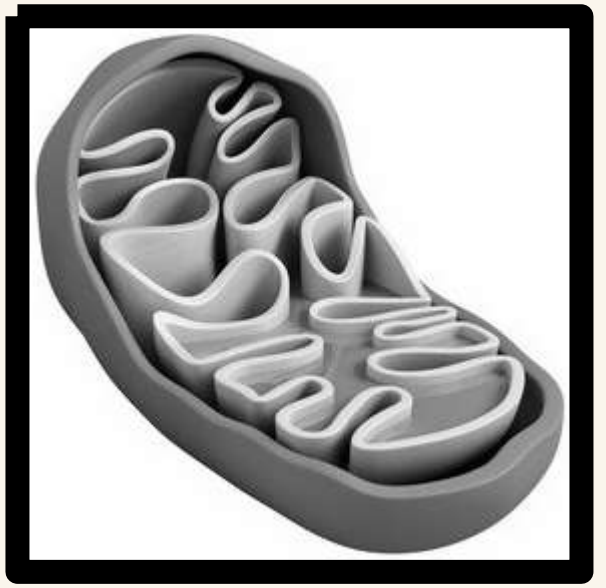
Using the following terms - match the structure with the image right:

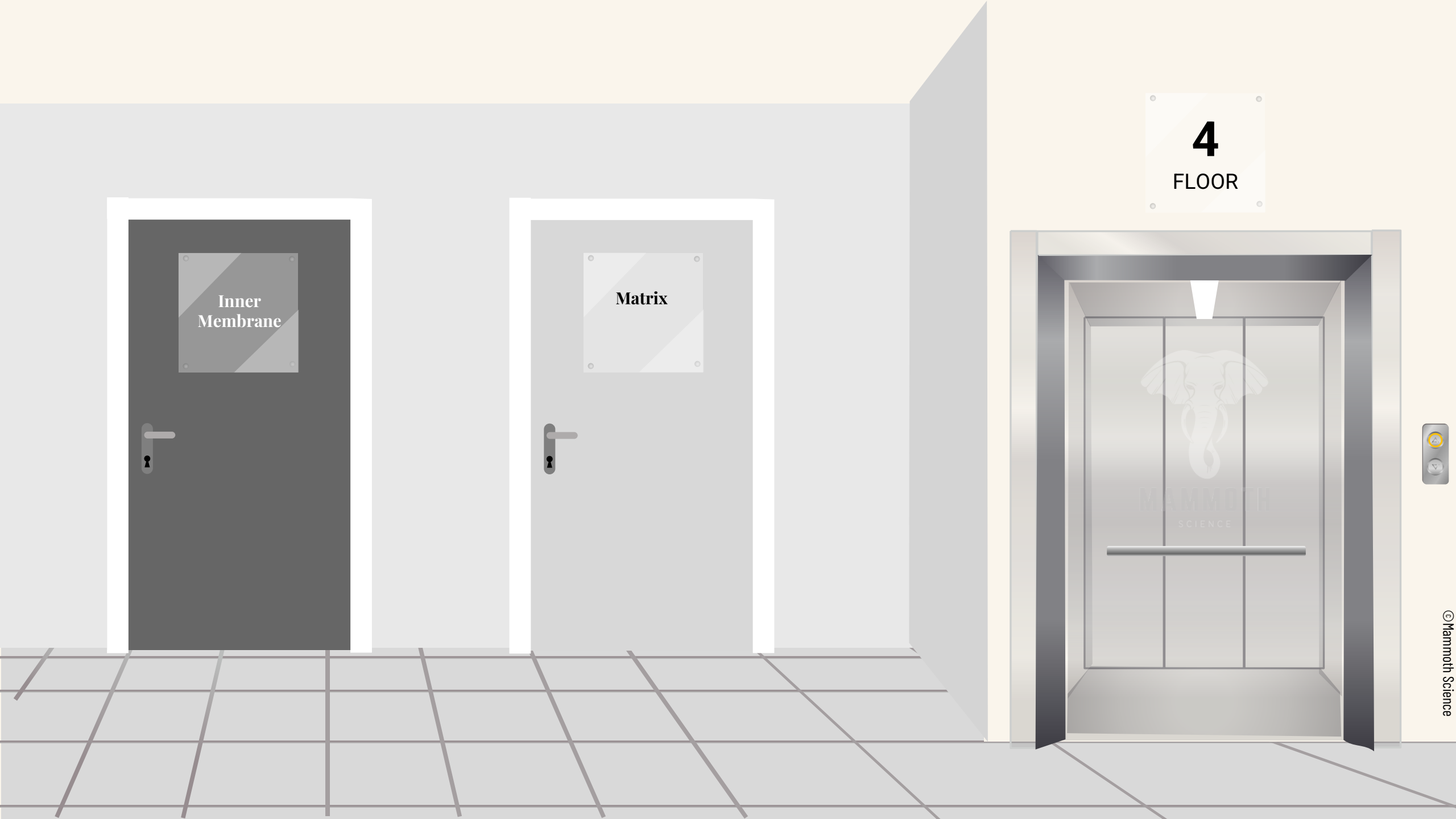
- **Intermembrane space**
- **Cristae**
- **Outer Membrane**
- **Inner membrane**
- **ATP Synthase**
- **Ribosome**
- **DNA (Maternal)**
- **Granules**
- **Matrix**



Summary

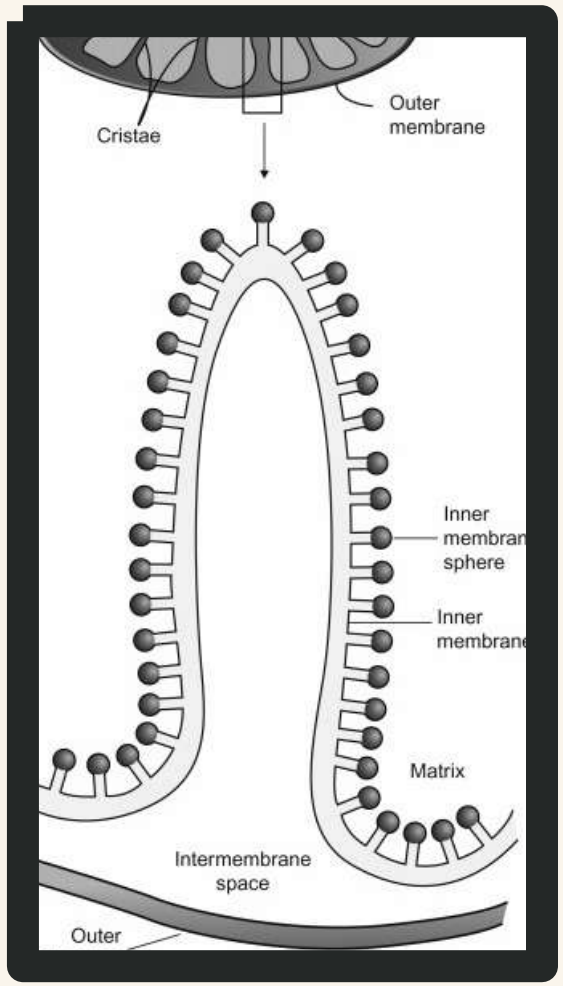
1. What are the layered structures that look like folds in the mitochondria called?
2. How many cell membrane(s) does mitochondria have?
3. What type of cell is mitochondria found in?
4. Which of the following division technique is similar in mitochondria and bacteria?



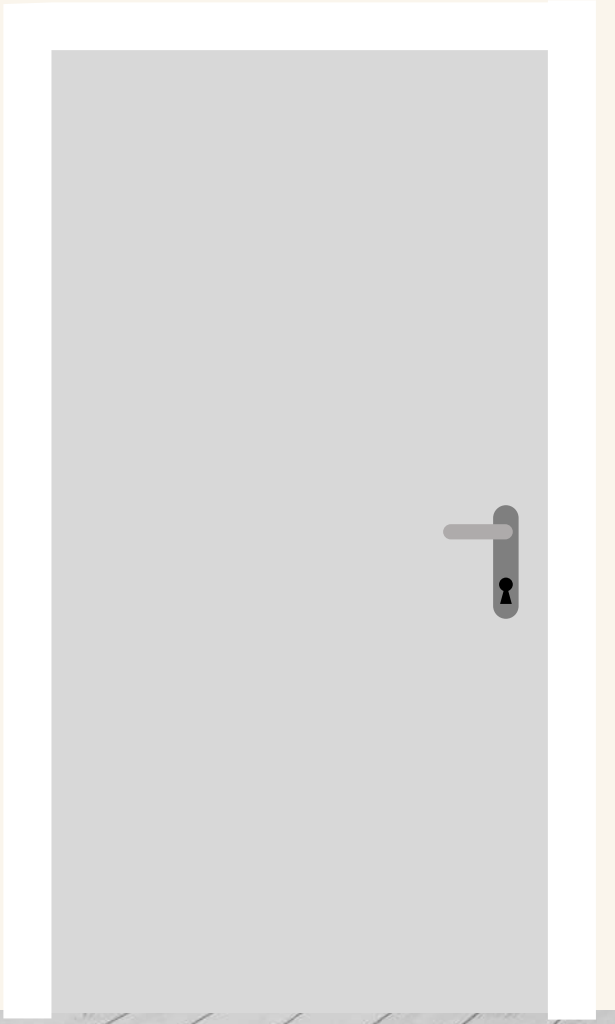


The Inner Membrane

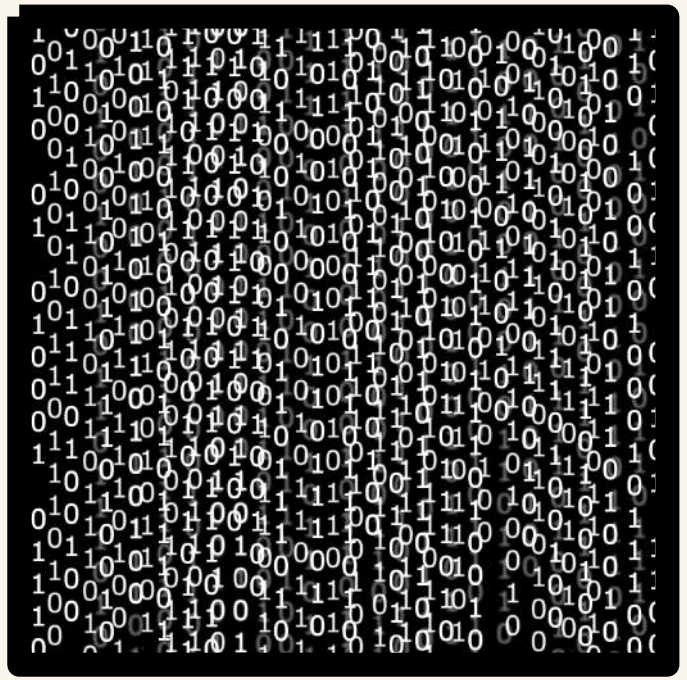
1. What two compartments does the inner membrane create?
2. What is the folding of the inner membrane called?
3. What process occurs here in cellular respiration?



The Matrix



1. Describe the Matrix
2. What all does the matrix contain?
3. What process/es of Cellular Respiration happens in the matrix?




ATP
CAUTION
CUIDADO
PISO MOLHADO
WET FLOOR
5
FLOOR
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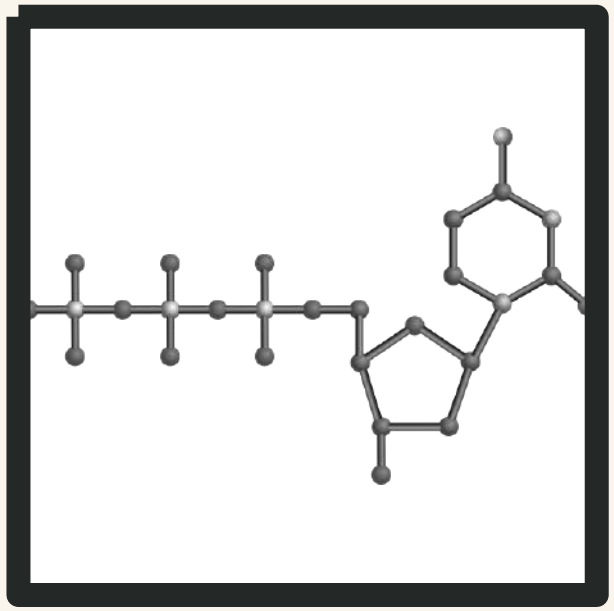
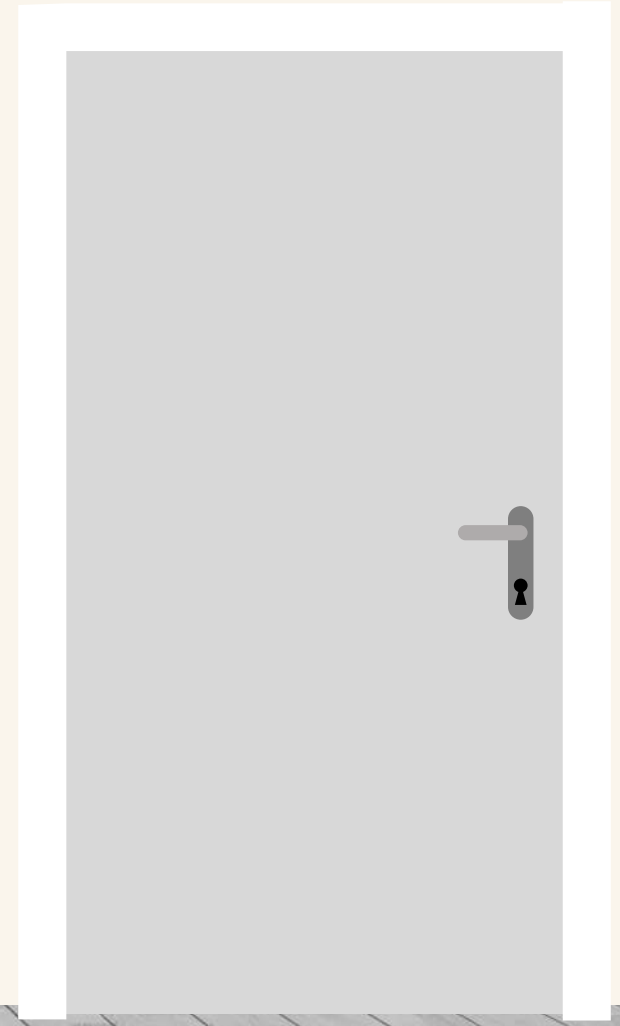
Adenosine Triphosphate

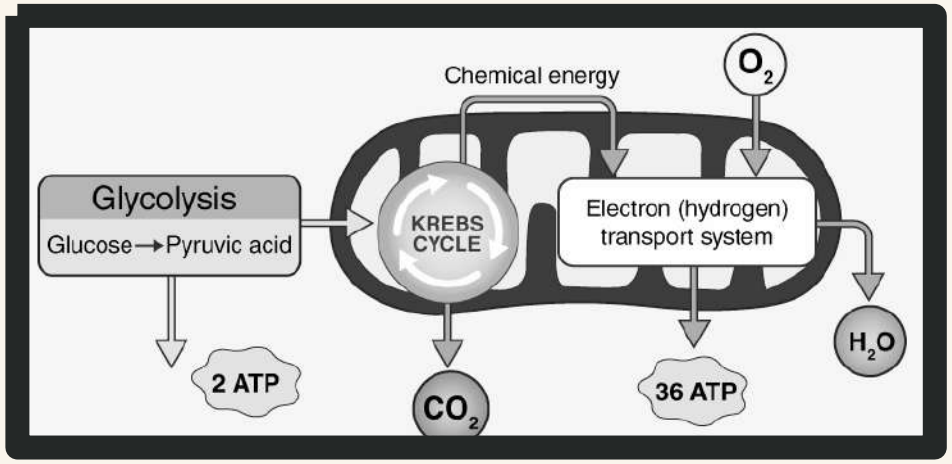
1. What is ATP?
2. How is it generated in Photosynthesis?
3. How much ATP is produced in each step of Cellular Respiration?
    d. Glycolysis
    e. Intermediate Step
    f. Krebs cycle
    g. Electron Transport





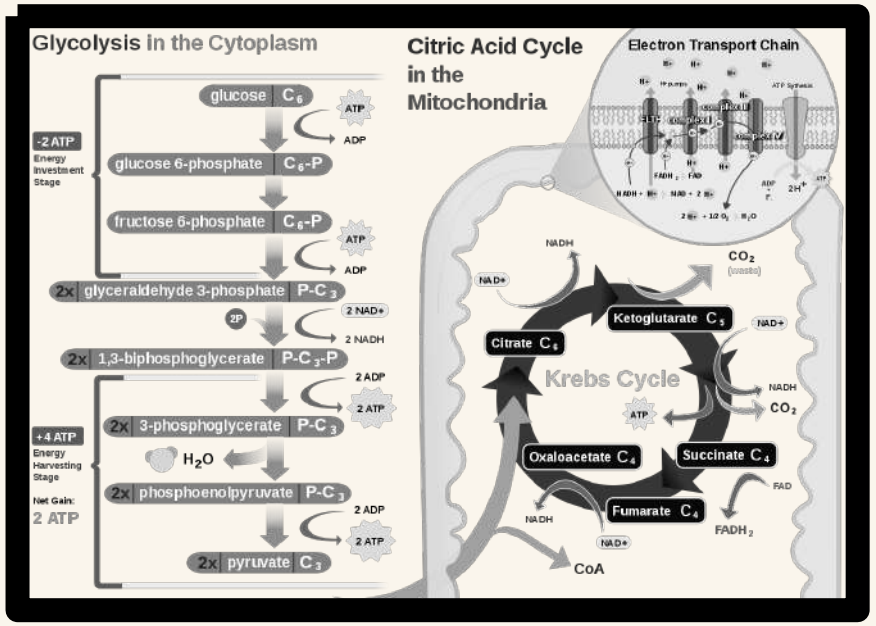
Aerobic

1. What does it mean to be aerobic?
2. What 3 processes make up Aerobic Cellular Respiration?
3. Is every process in "aerobic cellular respiration need O_2? Why?

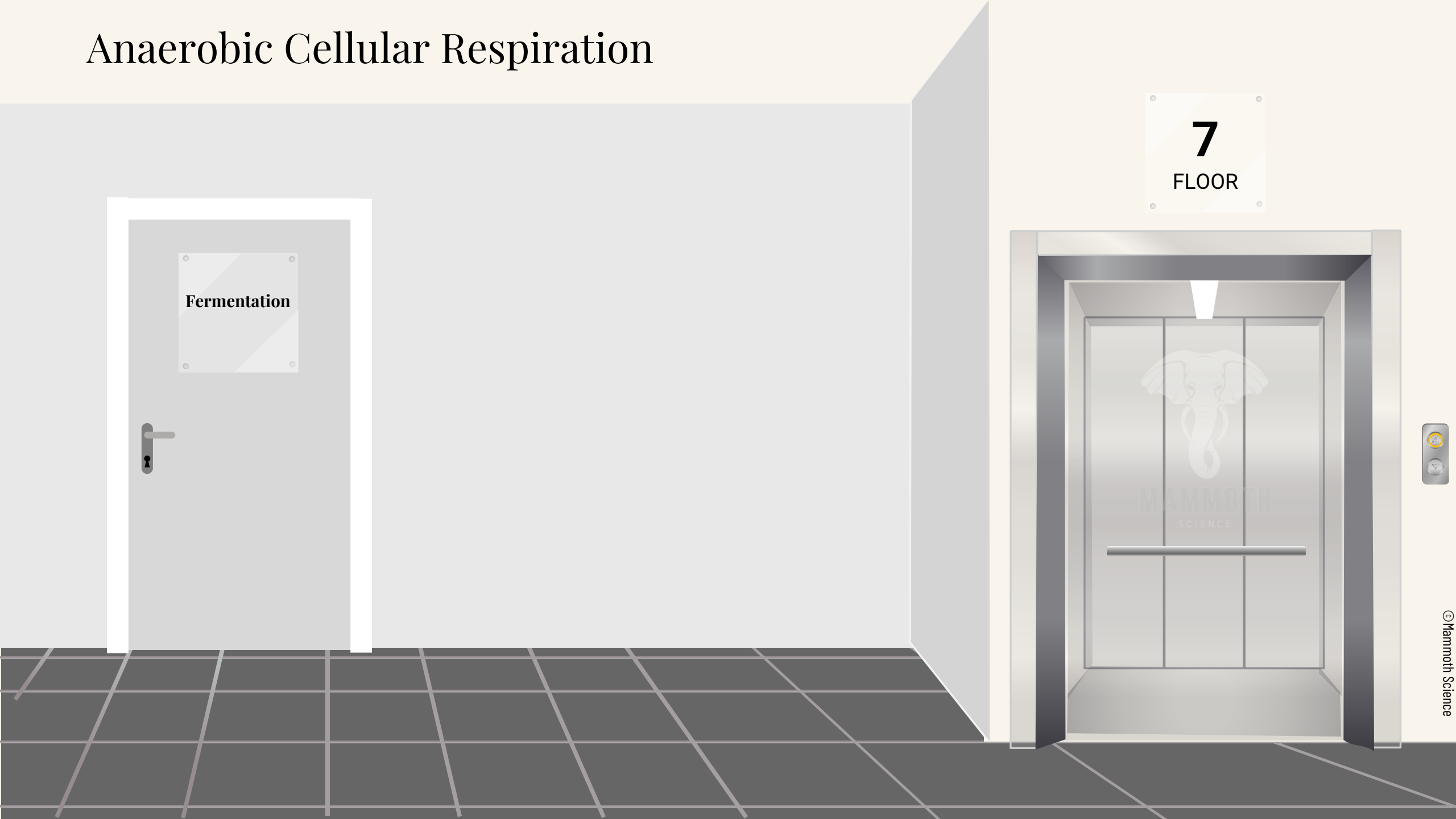


The Stages

1. List the Stages in Cellular Respiration
2. What are the Reactants and products of the Krebs Cycle?
3. How many turns go through the Krebs Cycle?
4. What does Pyruvate turn into before the Krebs?
5. What are the Products on the ETC?

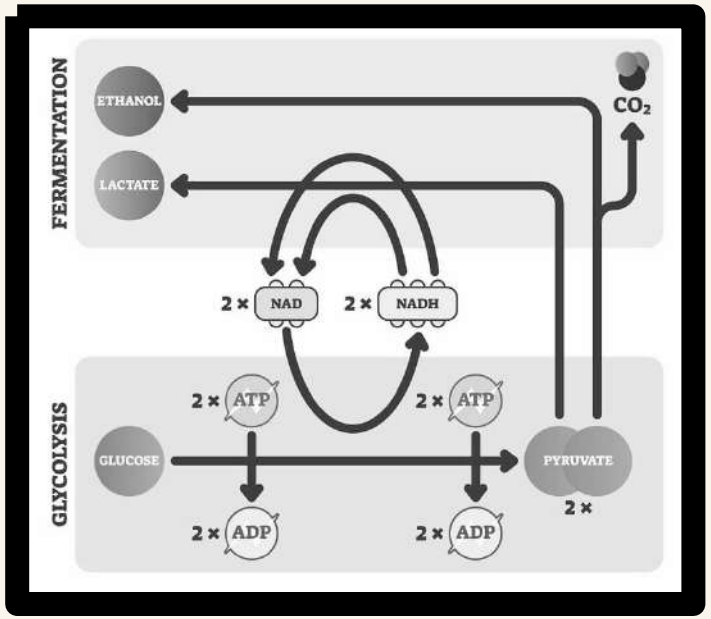


Anaerobic Cellular Respiration

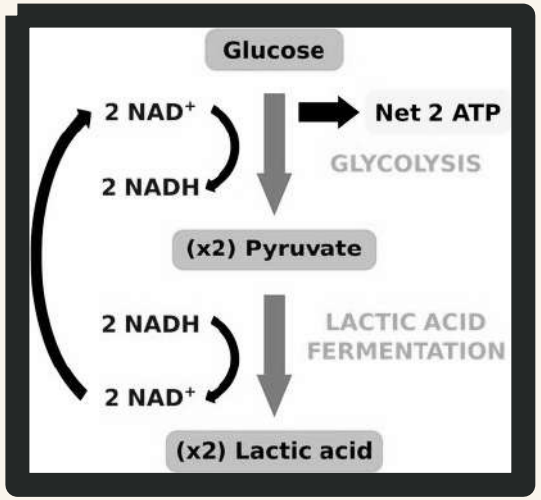


Anaerobic Respiration

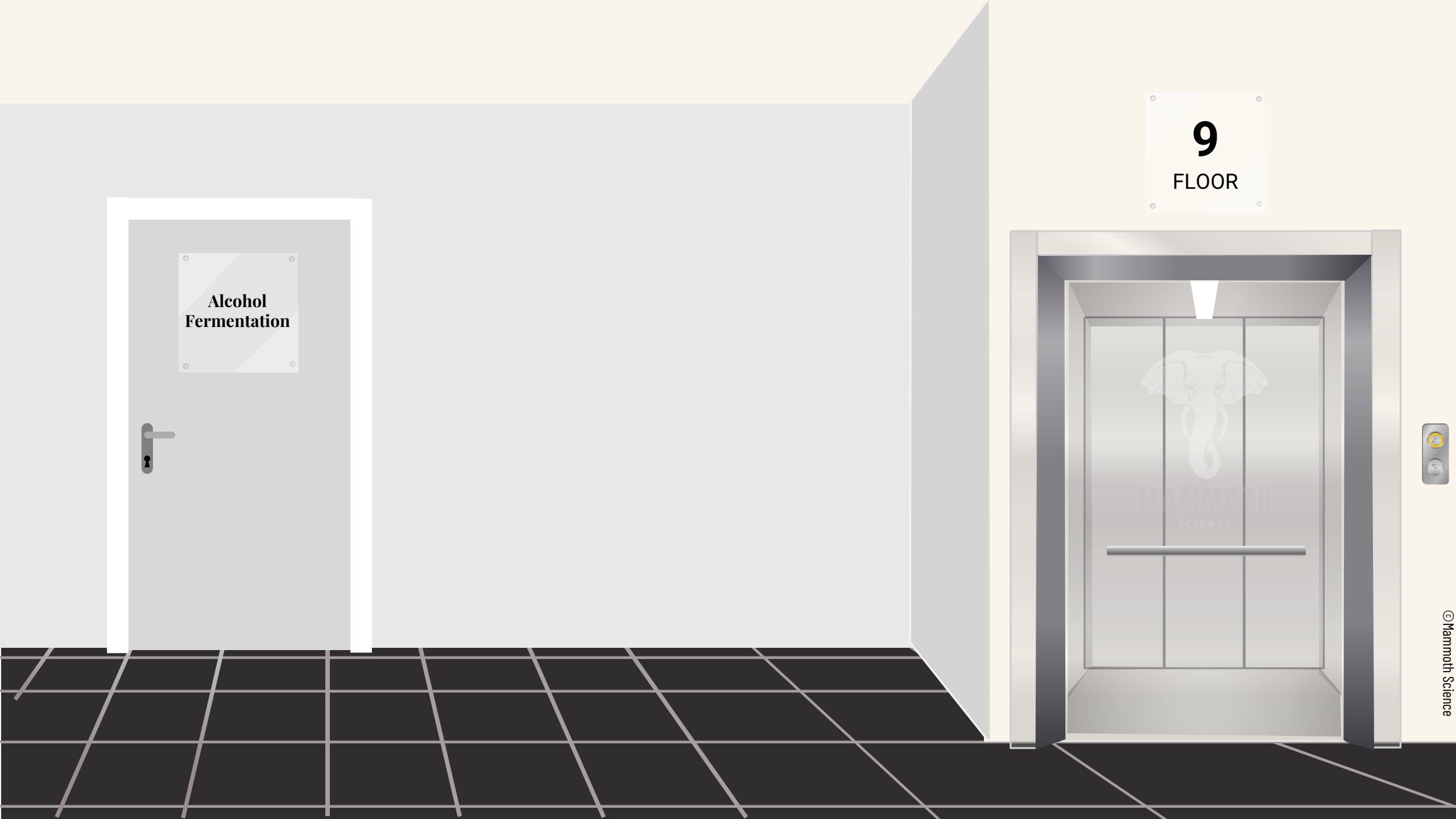
1. Define Anaerobic
2. List the Two types of Anaerobic Respiration
3. Compare and contrast Aerobic vs Anaerobic Respiration.
4. What kind of organisms undergo Anaerobic Respiration?



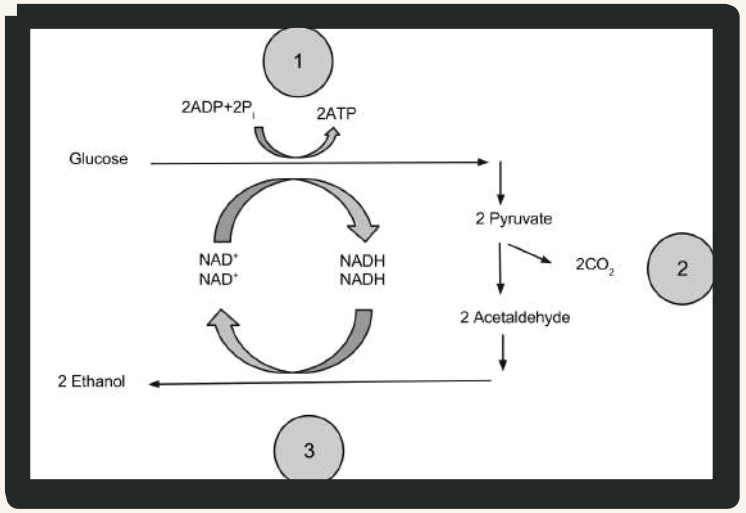
Lactic Acid Respiration



1. Describe Lactic Acid Respiration
2. Which organisms perform this process?
3. What is the product?
4. What effect does it have on human muscle tissue?
5. What types of foods are made using this respiration for a certain type of organism?



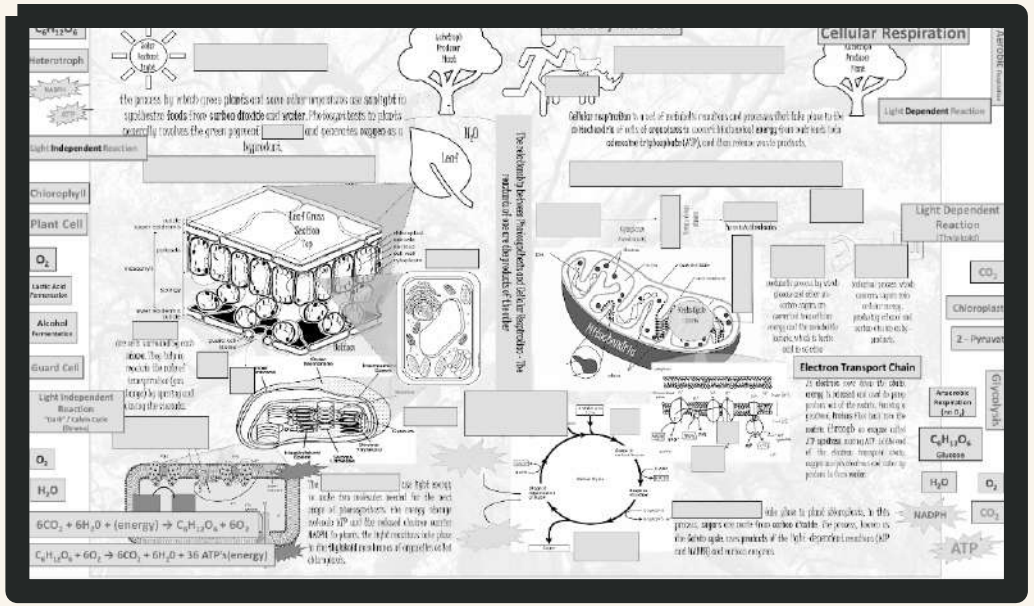
Alcohol Fermentation

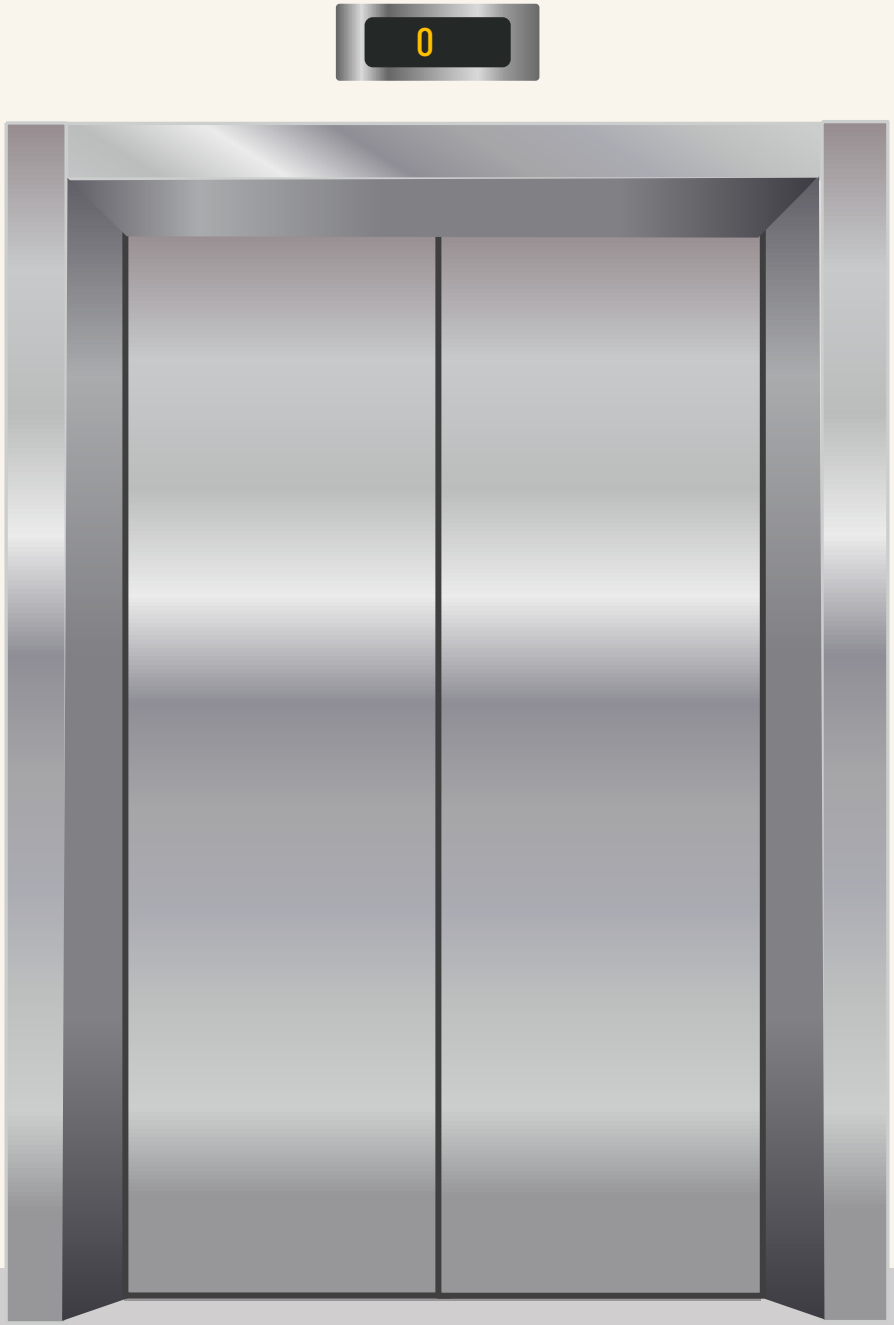


1. What are the products of Alcoholic fermentation?
2. Which organisms perform this process?
3. What foods are produced using Alcoholic Fermentation?
4. Compare and Contrast Aerobic vs Fermentation in terms of ATP production.

Jamboard

1. Complete the Jamboard - LINK
2. Take a screenshot and place in your answer document.





Thank you!

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Do you have any questions?

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