



Process of developing e-content *For* STEM

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Let's go stepwise!

ADDIE

ANALYZE

01

Needs & Constraints

DESIGN

02

Outcome based Activities

DEVELOP

03

Production

IMPLEMENT

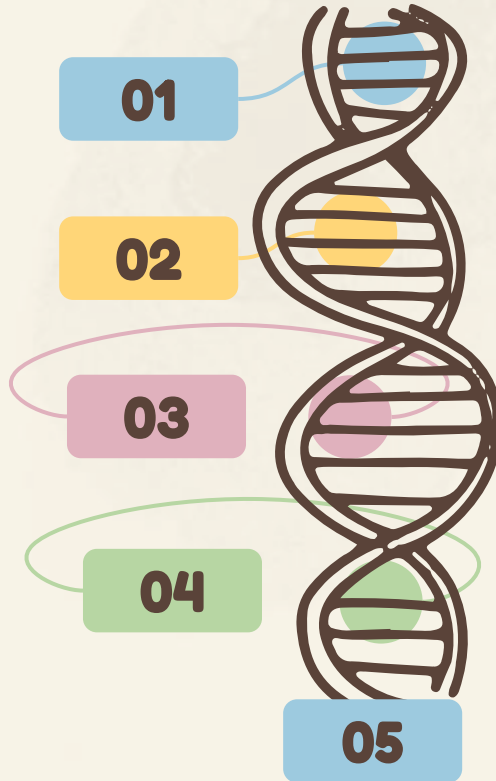
04

Put to Action

EVALUATE

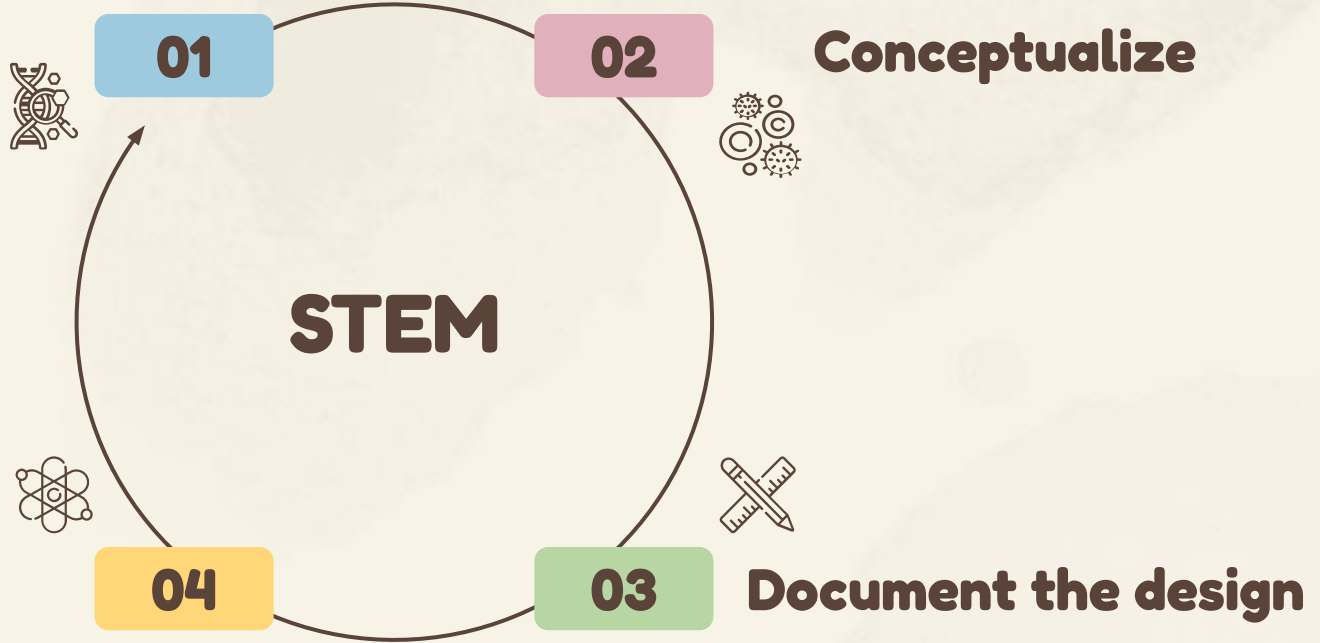
05

What worked/didn't?

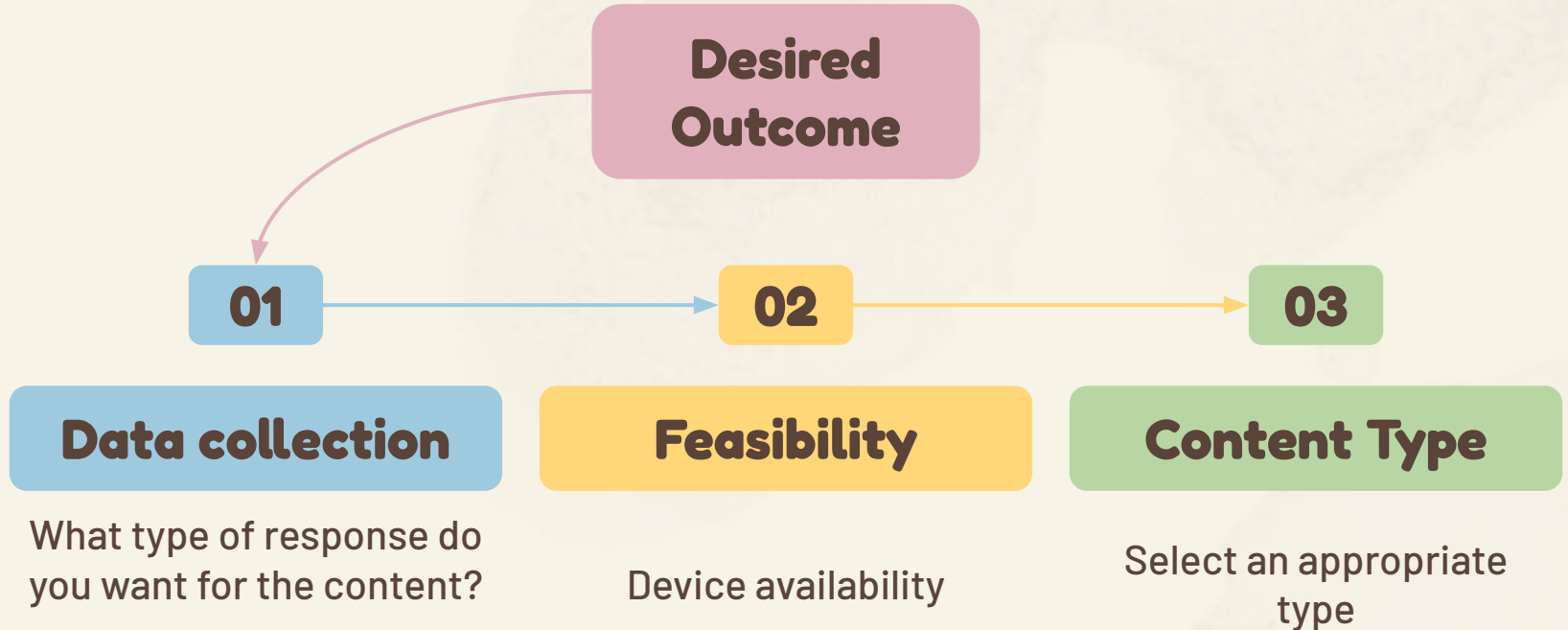


Getting into the process

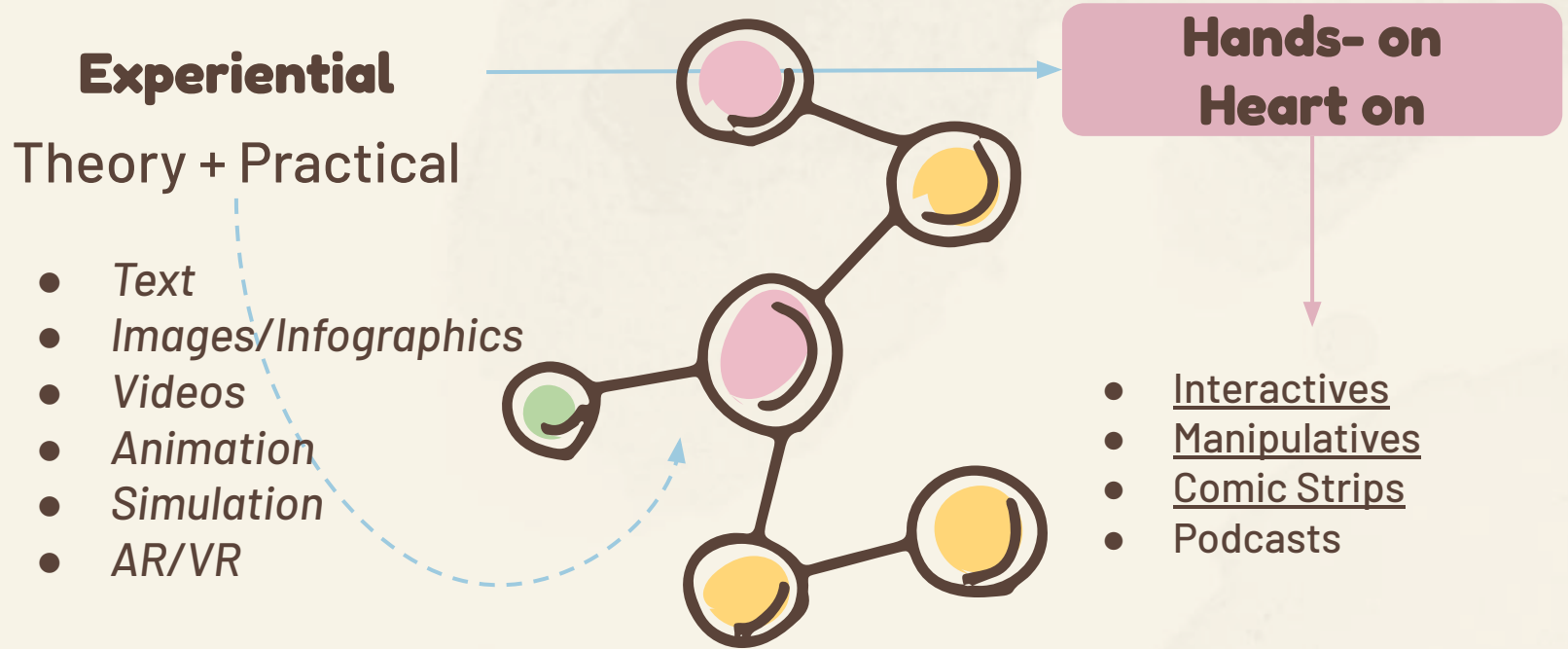
Objectives & outcomes



Mapping the STEM e-content



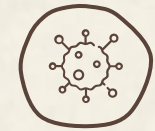
E-content in STEM



What do students want?



Mapping STEM content- examples



**Definition/
Law/
Short text**

Desired Outcome	Data collection	Type of e-content
Student should read	Via LMS- school computer lab	<u>H5p- interactive/ Doodle video/</u>
Student should be able to phrase the definition	PC, internet	Drag and drop correct words <u>mark the words</u>
Should be able to recite	Mobile phone only	Audio msg

Mapping STEM content- examples



Diagram

Desired Outcome	Data collection	Type of e-content
information about parts	Via LMS- school computer lab	<u>H5p- interactive/ crosswords</u>
Label the diagram	PC, internet	<u>Image hotspot, Drag and drop</u>
Draw/ Apply		Draw / <u>Jigsaw puzzle</u>

Mapping STEM content- examples



Science Practical application



Desired Outcome	Data collection	Type of e-content
Practical skill		Demonstration + practical at home
Application	Physical or virtual	Project
Create		Toy making/ Stop motion video

Popular STEM content formats



01

Podcasts

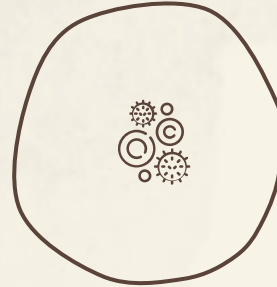
- Stories
- Interviews
- Experiences



02

Comic books

- Creative writing



03

Gifs/Stickers

- Micro learning
- Creative Expression



04

Games

- Challenge
- Concept building



Science = curiosity + open-mindedness, + learning from failures.

Dr. Ajita Deshmukh

Popular STEM content formats

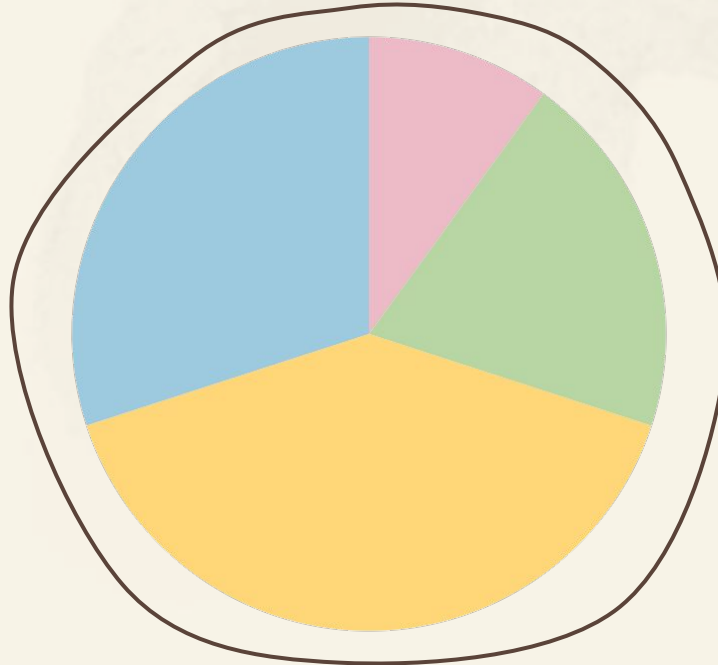
Gap 2

Jupiter is a gas giant and the biggest planet

40%

Synthesis

Mercury is the closest planet to the Sun



10%

Mitosis

Neptune is the farthest planet from the Sun

20%

Gap 1

Despite being red, Mars is a cold place

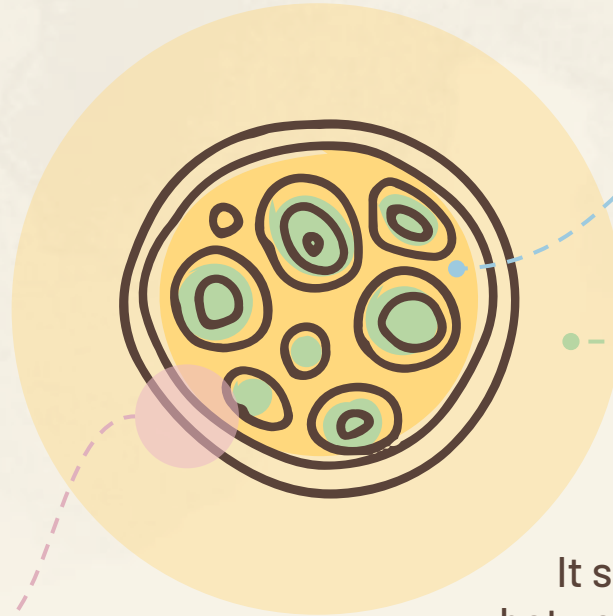
Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)

STEM infographics

Cells are considered the basic units of life

All cells are surrounded by a structure called

The cell membrane



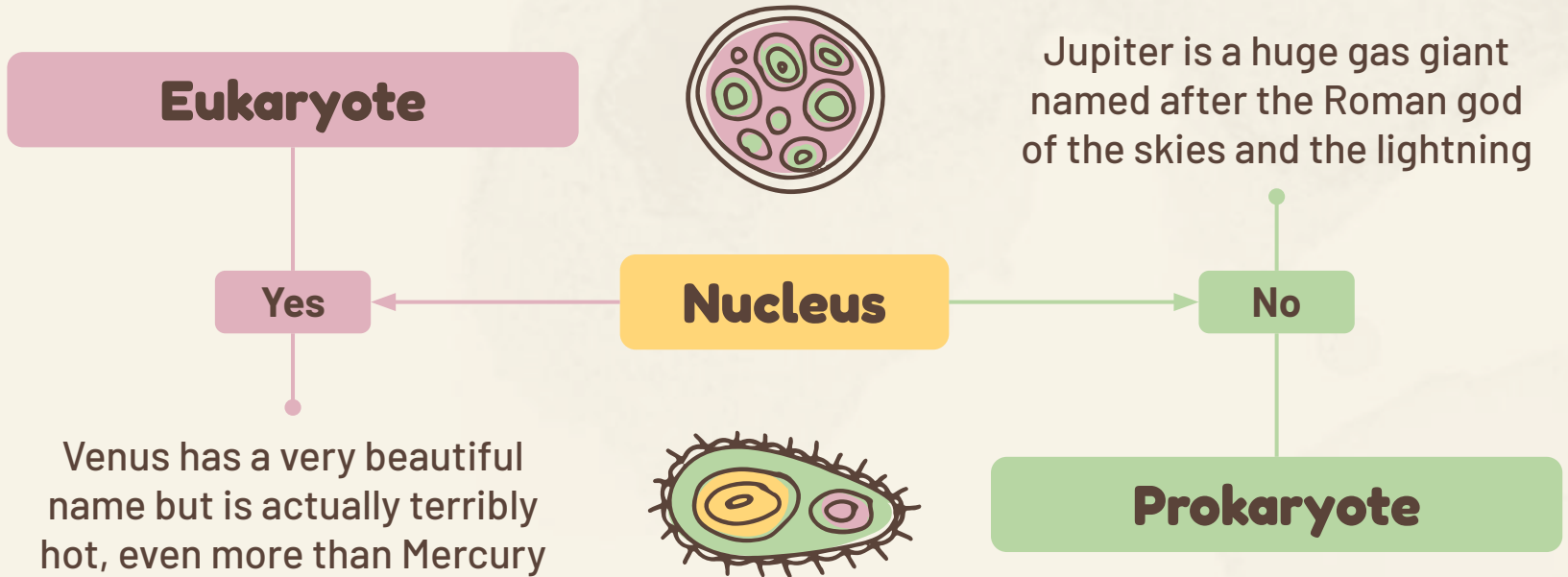
Internal



External

It serves as a boundary between the cell's internal and external environments

STEM infographics



STEM infographics

01

Mitosis

- 4 stages
- Somatic cells
- Cellular proliferation
- 2 diploid cells



- New cells
- Similar basic steps
- Single parent cell

02

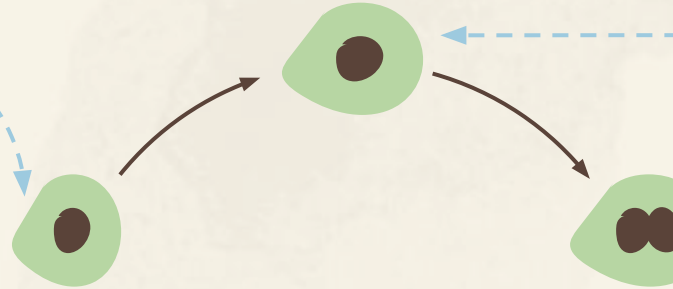
Meiosis

- 8 stages
- Germ cells
- Reproduction
- 4 haploid cells

STEM infographics

Prophase

Jupiter is the biggest planet



Prometaphase

Neptune is very far from the Sun



Metaphase

Despite being red, Mars is a cold place



Anaphase

Pluto is considered a dwarf planet



Mitosis

Cytokinesis

Mercury is quite a small planet



Telophase

Venus is the second planet from the Sun



STEM infographics

01

Ribosomes

Jupiter is a gas giant and the biggest planet



02

Lysosomes

Neptune is the farthest planet from the Sun

03

Vacuoles

Mercury is the closest planet to the Sun



04

Peroxisomes

Despite being red, Mars is actually a very cold place



STEM infographics

01

Matrix

Jupiter is a gas giant and the biggest planet

Mitochondria

02

Granules

Neptune is the farthest planet from the Sun

03

Membrane

Mercury is the closest planet to the Sun

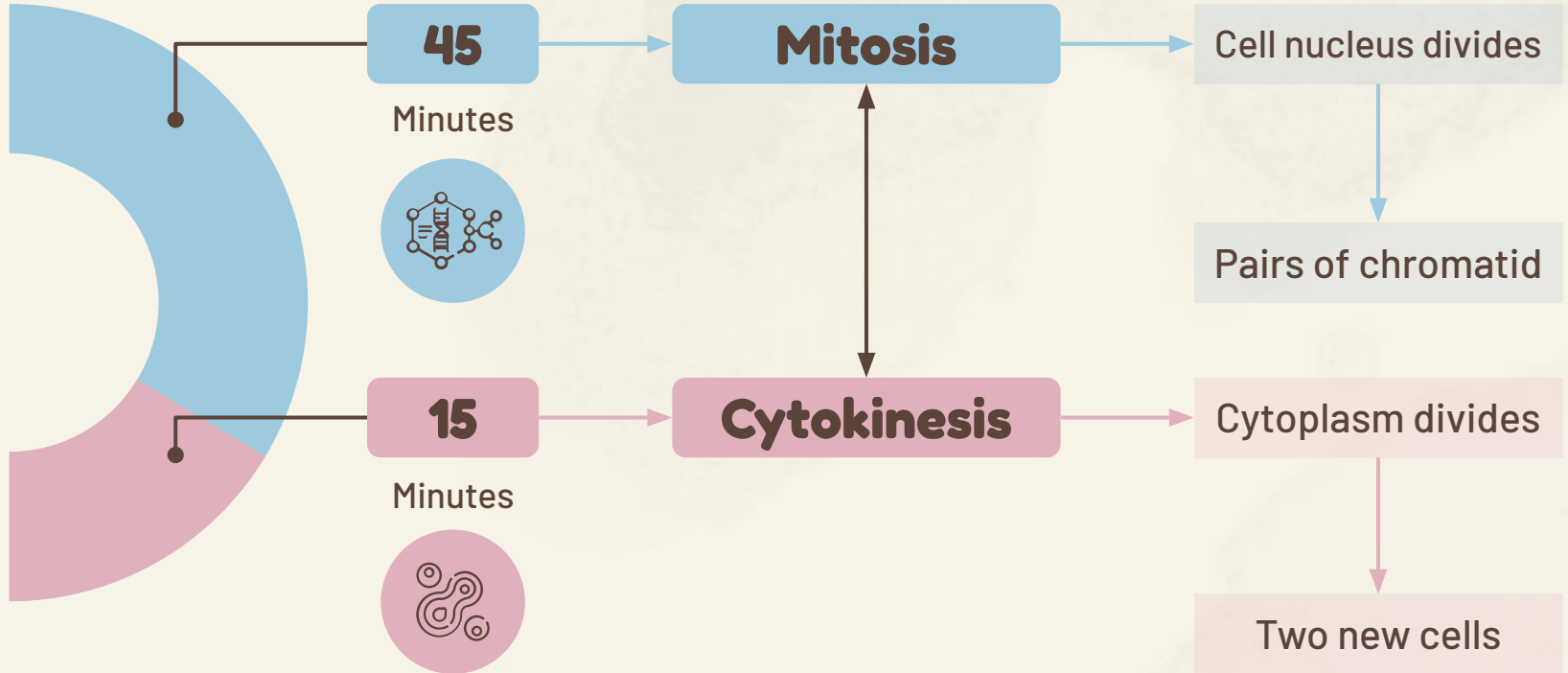


04

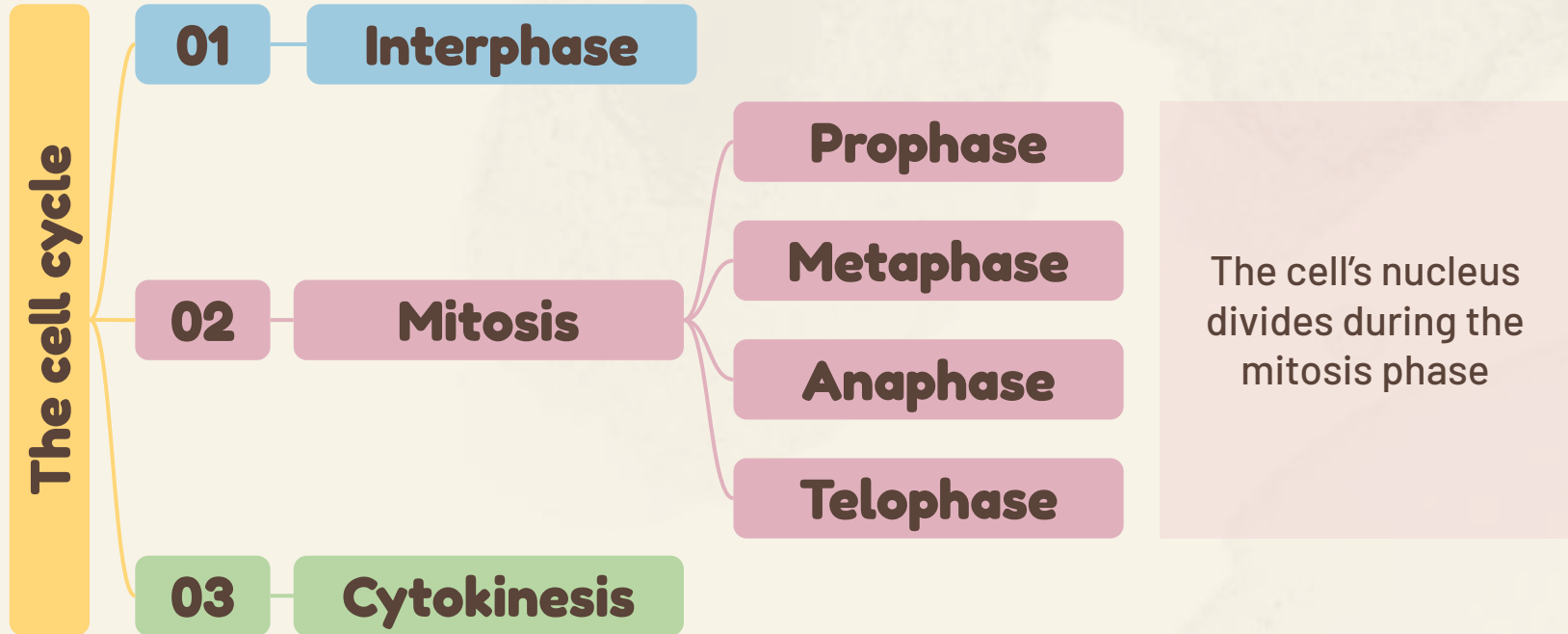
DNA

Despite being red, Mars is a cold place

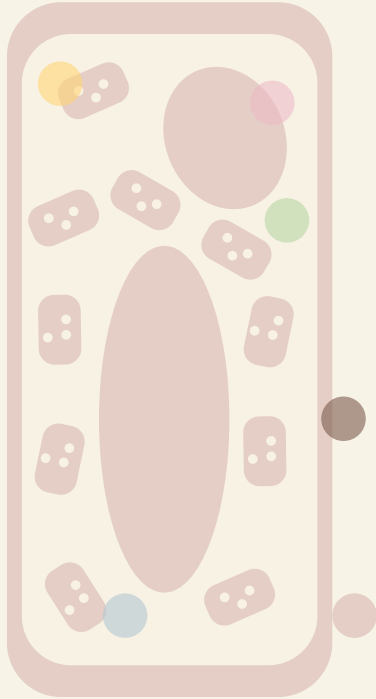
STEM infographics



STEM infographics



STEM content



● **Text**

● **Videos**

Neptune is very far from the Sun

● **Cytoplasm**

Despite being red, Mars is a cold place

● **Vacuole**

Pluto is considered a dwarf planet




● **Chloroplast**

Venus is the second planet from the Sun

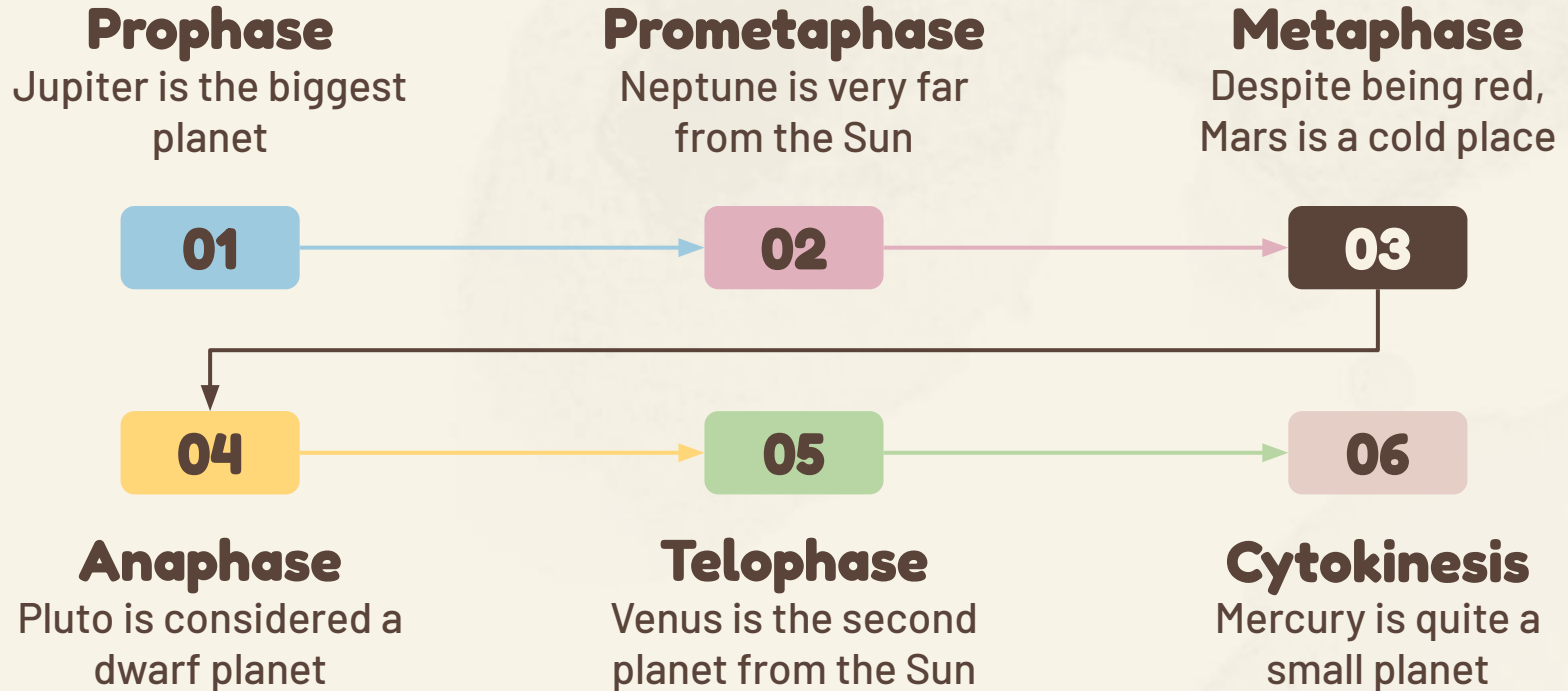
● **Cell wall**

Mercury is quite a small planet

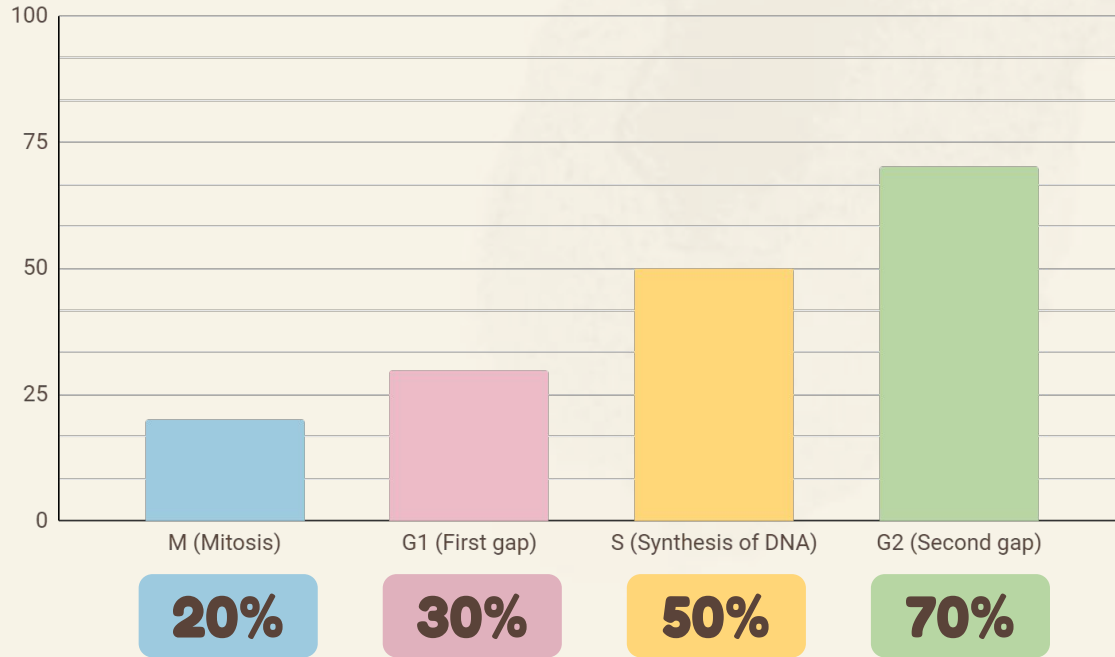
STEM infographics

	Prophase	Metaphase	Anaphase
 Somatic	Venus has a beautiful name	Mercury is the smallest planet	Earth is where we all live on
 Stem	Saturn is a gas giant with rings	Jupiter is the biggest planet	Neptune is very far from the Sun
 Embryonic	Ceres is located in the asteroid belt	Pluto is now a dwarf planet	Despite being red, Mars is cold

STEM infographics



STEM infographics



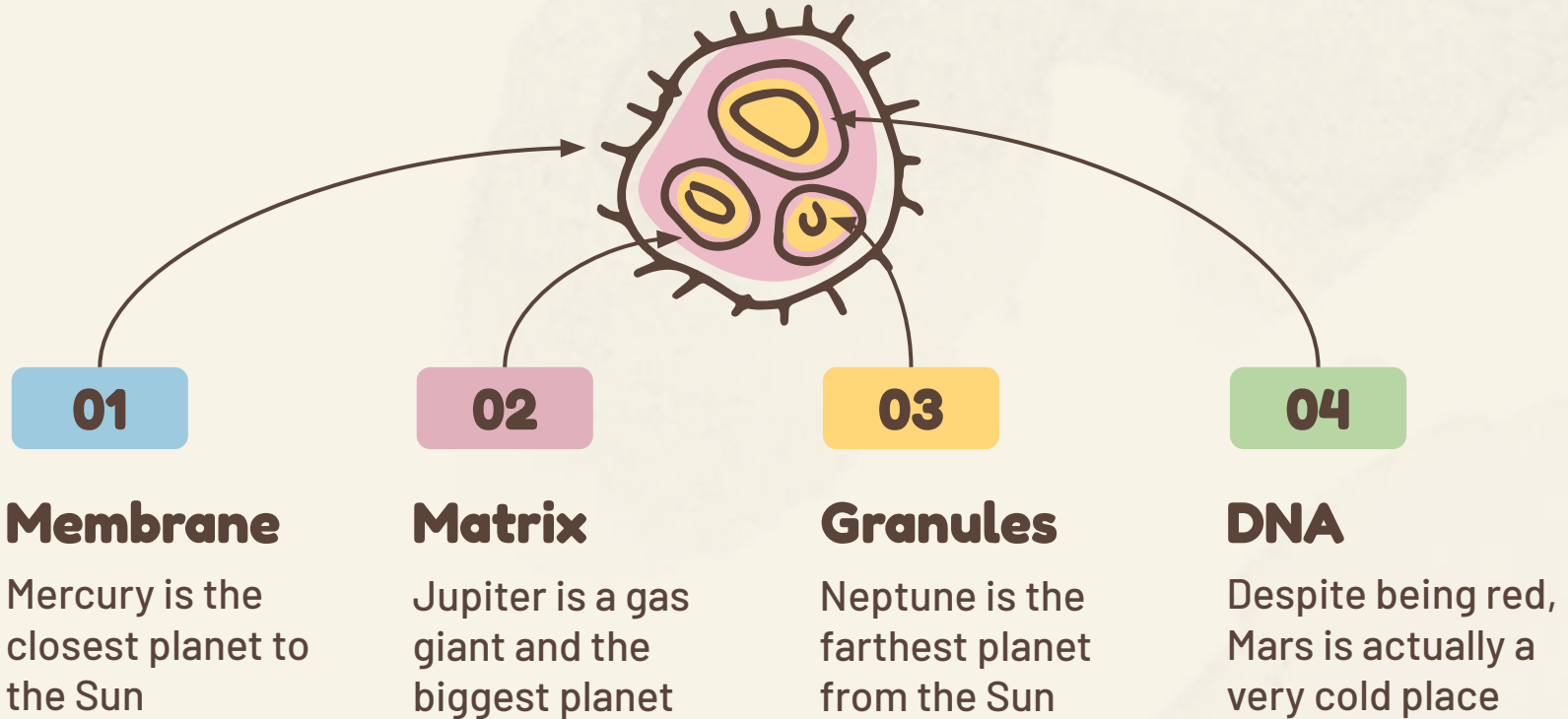
Cell life cycle



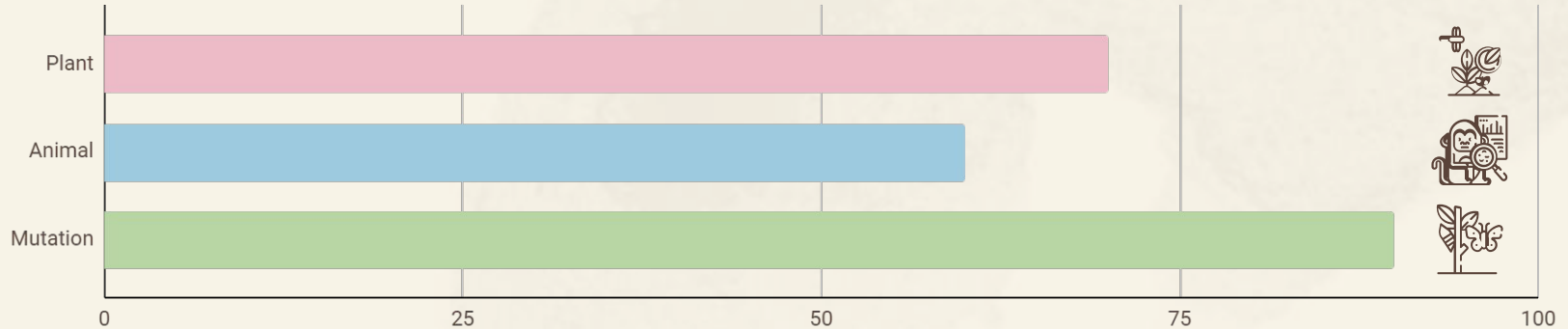
Jupiter is a gas giant and the biggest planet

Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)

STEM infographics



STEM infographics



70%

Plant cells

Mercury is the closest planet to the Sun

60%

Animal cells

Jupiter is the biggest planet in the Solar System

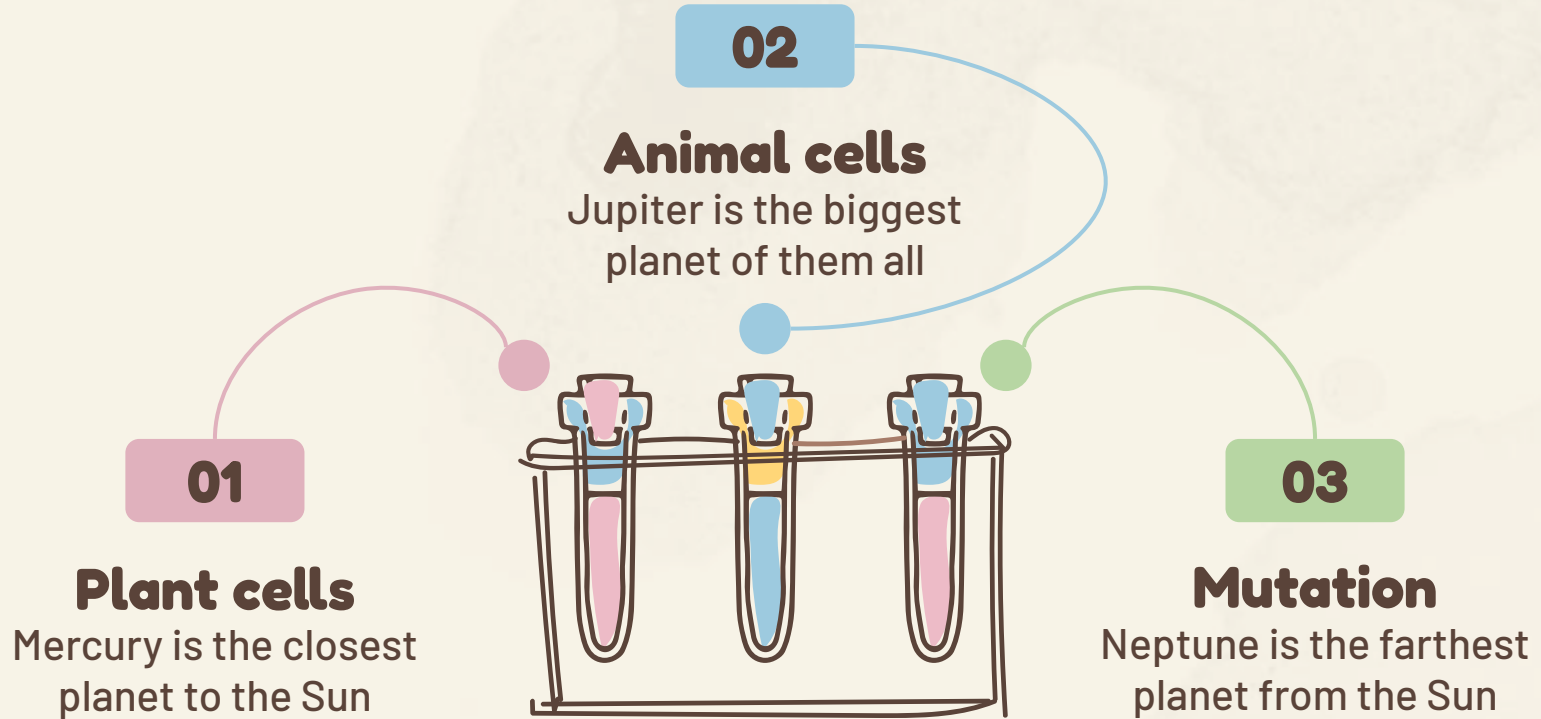
90%

Mutation

Neptune is the farthest planet from the Sun

Follow the link in the graph to modify its data and then paste the new one here. For more info, [click here](#)

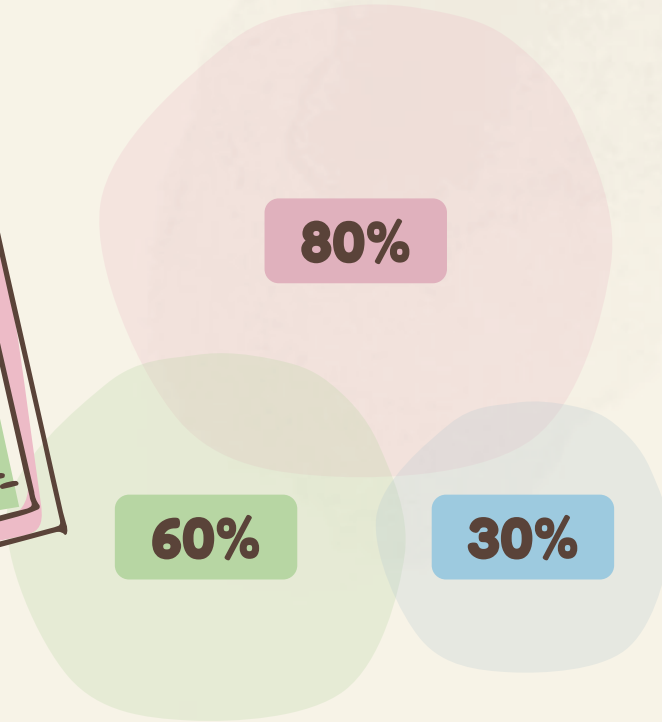
STEM infographics



STEM infographics



STEM infographics



- **Nucleus**
Jupiter is the biggest planet
- **Mitochondria**
Neptune is very far away from us
- **Cytoplasm**
Despite being red, Mars is a cold place

Infographics

You can add and edit some **infographics** to your presentation to present your data in a visual way.

- Choose your favourite infographic and insert it in your presentation using Ctrl C + Ctrl V or Cmd C + Cmd V in Mac.
- Select one of the parts and **ungroup** it by right-clicking and choosing “Ungroup”.
- **Change the color** by clicking on the paint bucket.
- Then **resize** the element by clicking and dragging one of the square-shaped points of its bounding box (the cursor should look like a double-headed arrow). Remember to hold Shift while dragging to keep the proportions.
- **Group** the elements again by selecting them, right-clicking and choosing “Group”.
- Repeat the steps above with the other parts and when you’re done editing, copy the end result and paste it into your presentation.
- Remember to choose the “**Keep source formatting**” option so that it keeps the design. For more info, please visit **our blog**.

