



StarQuest

A Solana Game

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01

Problem



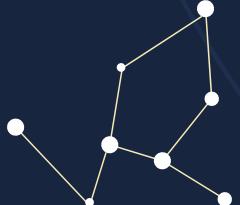
Problem

- ◆ Artificial intelligence has huge potential in astronomy
 - Need training sets
 - In order to make them, researchers hand-label existing images
- ◆ Galaxy Zoo
 - A project in which volunteers categorize galaxy images to label astronomical data
 - Can a Solana game make this process more popular for volunteers and involve blockchain?



02

Goals



Create a Solana Game That:

- ◆ Allows users to discover stars, galaxies, nebulas, etc.
- ◆ Gives users NFTs of the stars they discover
 - An incentive to play
- ◆ Thus, provides labeled training datasets for astronomy

03

Progress



Tech Stack

Godot Game Engine

We created our game scripts on Godot, then used the Godot-Solana SDK to add Solana functionality.

Solana Blockchain

We minted NFTs for newly discovered stars and galaxies and gave them to users who found them.

GDScript Coding Language

This is Godot's own language, semantically similar to Python and optimized for Godot's scene-based architecture



DEMO



```
1 import { Connection, Keypair } from "@solana/web3.js";
2 import { createMint, getOrCreateAssociatedTokenAccount, mintTo, setAuthority, transfer } from "@solana/
3 import { getKeypairFromFile } from "@solana-developers/helpers"
4
5 const quicknodeEndpoint = 'https://broken-fittest-waterfall.solana-devnet.quiknode.pro/53eb10c92c0f01f
6 const connection = new Connection(quicknodeEndpoint, "confirmed");
7
8 //const secret = [174,157,65,57,39,160,80,236,198,199,31,185,130,28,84,184,140,245,128,238,61,70,34,21
9 //const fromWallet = Keypair.fromSecretKey(new Uint8Array(secret));
10
11 (async () => {
12     const fromWallet = await getKeypairFromFile("key.json");
13     console.log("FROM WALLET", fromWallet.publicKey.toBase58());
14     // Create a new token
15     const mint = await createMint(
16         connection,
17         fromWallet,           // Payer of the transaction
18         fromWallet.publicKey, // Account that will control the minting
19         null,                // Account that will control the freezing of the token
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\reach\Desktop\HackIllinois\StarsHackIllinois\SolanaNFT> tsc index.ts
```

```
PS C:\Users\reach\Desktop\HackIllinois\StarsHackIllinois\SolanaNFT> node index.js
```

bigint: Failed to load bindings. pure JS will be used (try npm run rebuild?)

FROM WALLET 12w3n4hhoNi2js6WrZtjDmee8FoJaAWsZ4FeeTWU7qwt

Server responded with 429 Too Many Requests. Retrying after 500ms delay...

Server responded with: 429 Too Many Requests. Retrying
TO_WALLET_ZemphicScBacGBHVOKoZwitsZz5AzzEjG2Cd5E0DS3rb

TO WALLET: 7ACM1C5QCB1QWQ22Z22J3C2GFLQD3P3

Search for blocks, accounts, transactions, programs, and tokens



DETAILS

Transaction

Overview

[Inspect](#)[Refresh](#)

Signature

HDEEZ3dGmQqJMwRYUQqnAiCkvSCnpN1qadP2SgYYzRBMDtbnU3McnduPLD7PNpRBKBn6m9X8MS5bBqoKW77aGnk

Result

Success

Timestamp

Feb 25, 2024 at 01:35:26 Central Standard Time

Confirmation Status

FINALIZED

Confirmations

MAX

Slot

281,039,067

Recent Blockhash

4MEUaJULQ5gRuf1AayWkqAJNC51ainc2QGdgMHjEERFr

Fee (SOL)

©0.000005

04

Future Work



Future Work

Connect Solana and Godot

Connect Solana backend code (NFT creation) and Godot frontend (star discovery)

Allow Star Discovery

Allow users to set stars and galaxies down on the background image when they believe they have discovered stars

Connect to Database

Add astronomer-verified, user-discovered stars to a database usable by researchers

Thanks for
watching!



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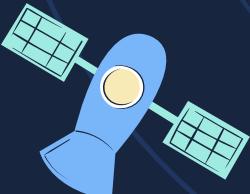
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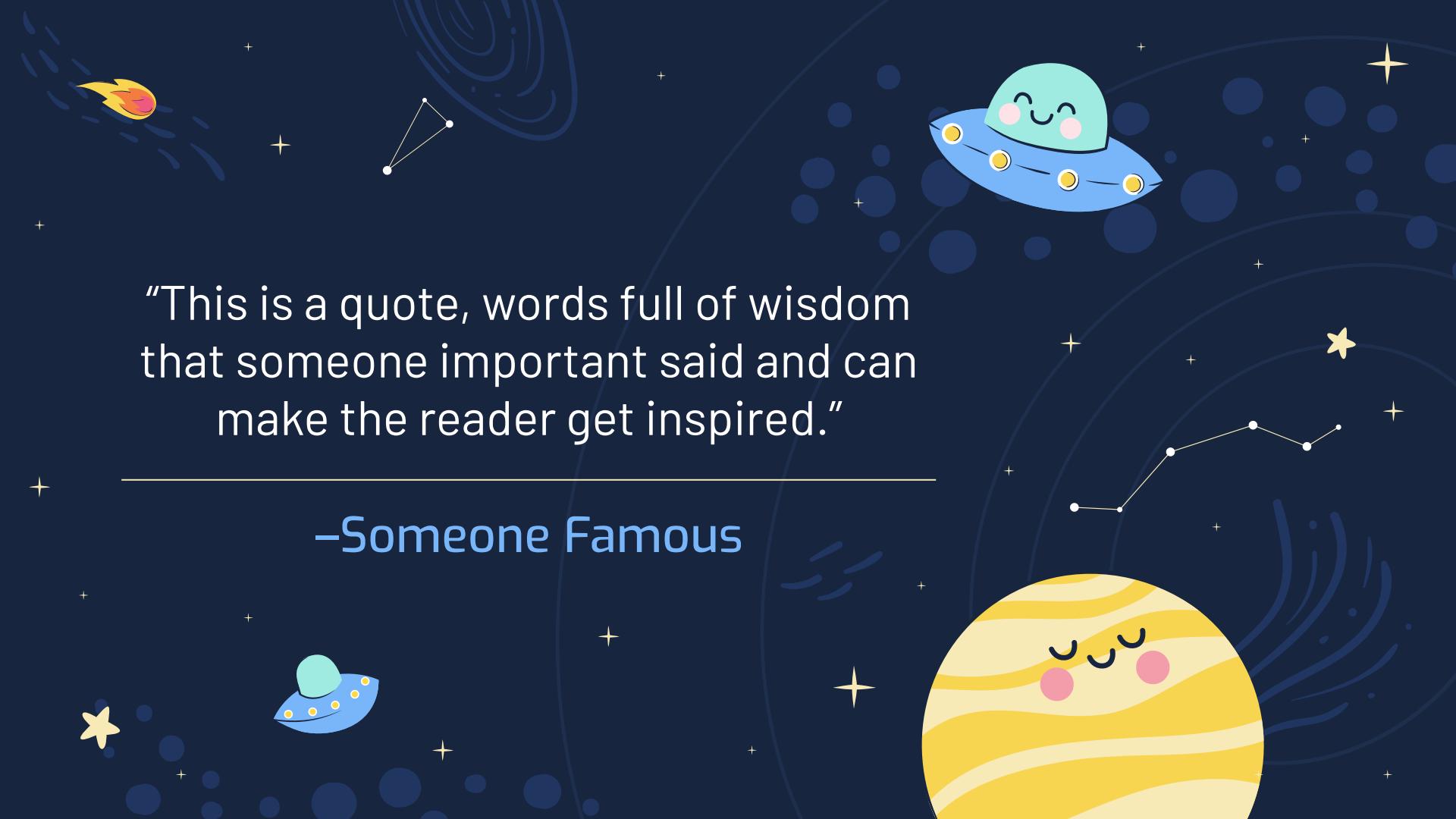
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Introduction

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon. The planet's name has nothing to do with the liquid metal, since Mercury was named after a Roman god





“This is a quote, words full of wisdom
that someone important said and can
make the reader get inspired.”

-Someone Famous

01

Teaching method

You can enter a subtitle here if you need it

Our teaching method

Methods

Activities

Mars is actually a very cold place

Goals

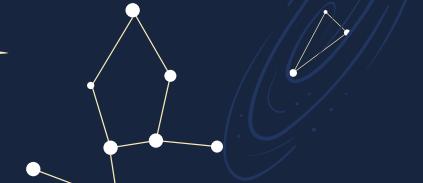
Mercury is quite a small planet

Feedback

Venus has a beautiful name

Assessment

Earth is a planet that has life



What sets us apart?



Mercury

Mercury is the closest planet to the Sun and the smallest of them all



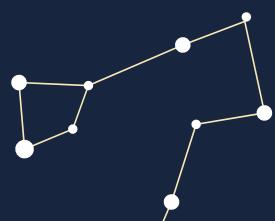
Venus

Venus has a beautiful name and is the second planet from the Sun



Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust



The curriculum

Introduction

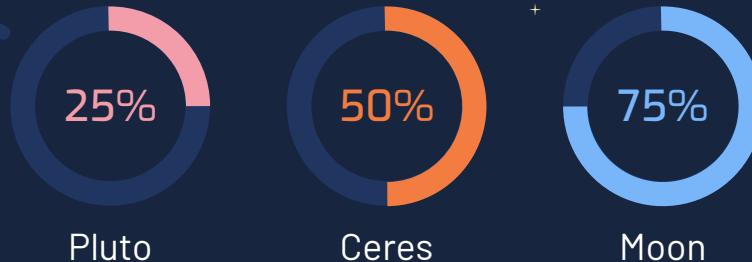
Despite being red, Mars is actually a very cold place. It's full of iron oxide dust, which gives Mars its reddish color

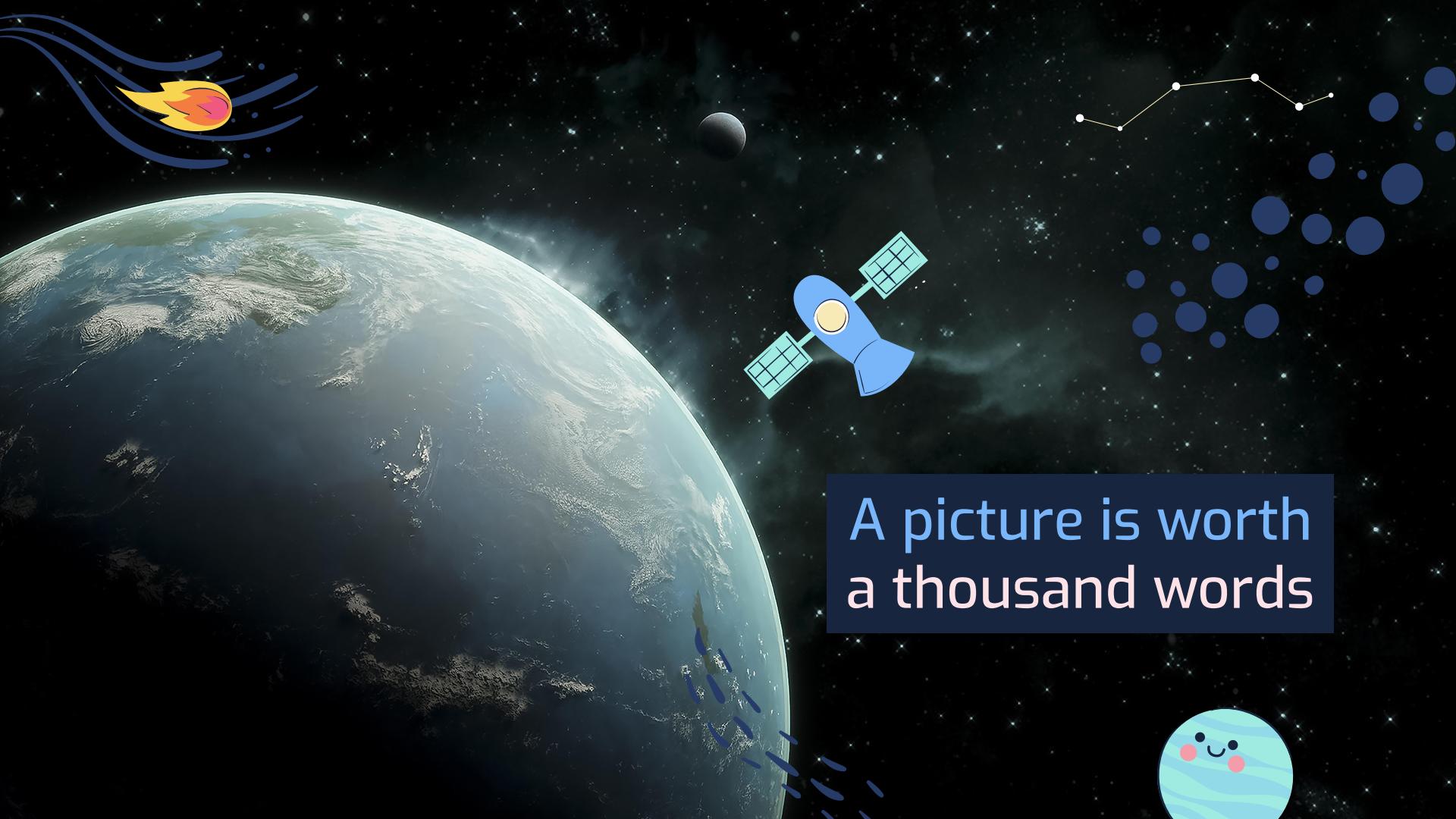
20XX	Mercury is very small
20XX	Saturn has several rings
20XX	Venus has a beautiful name
20XX	Neptune is far away from us

Features

Mercury		4/5
Venus		3/5

Advantages





A picture is worth
a thousand words

+ Our academic areas

Mars

Mars is actually a very cold place

Mercury

Mercury is the closest planet to the Sun



Saturn

Saturn is a gas giant with several rings



Venus

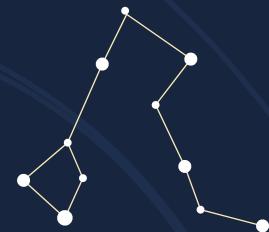
Venus is the second planet from the Sun

Neptune

Neptune is the farthest planet from the Sun

Jupiter

Jupiter is the biggest planet of them all



Our mission and vision



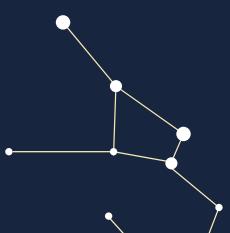
Mission

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon



Vision

Venus has a beautiful name and is the second planet from the Sun. It's hot and has a poisonous atmosphere



Our values

Mars

Mars is actually a very cold place

Jupiter

Jupiter doesn't have a solid surface

Neptune

Neptune is very far away from the Sun

Saturn

Saturn was named after a Roman god



130,000

Big numbers catch your audience's attention

Our success

25%



Mercury

Mercury is the closest planet to the Sun and the smallest of them all

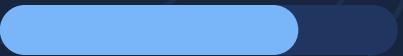
50%



Venus

Venus has a beautiful name and is the second planet from the Sun

75%



Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust



Statistics



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



Venus

Venus has a beautiful name



Jupiter

Jupiter is a huge gas giant



Mercury

Mercury is a small planet



Awesome words



Our teachers



Sam Miller

You can speak a bit about this person here



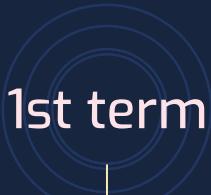
Jessica Smith

You can speak a bit about this person here

Our goals

Mercury	Venus	Mars
Mercury is the closest planet to the Sun and the smallest of them all	Venus has a beautiful name and is the second planet from the Sun	Despite being red, Mars is actually a cold place. It's full of iron oxide dust

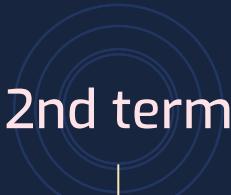
Student process



1st term

Mars

Mars is actually a
very cold place



2nd term

Venus

Venus has a
beautiful name



3rd term

Jupiter

Jupiter is a huge
gas giant



4th term

Mercury

Mercury is quite a
small planet



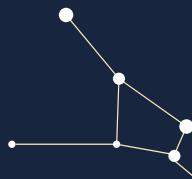
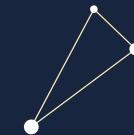
A picture always reinforces the concept

Images reveal large amounts of data, so remember: use an image instead of a long text. Your audience will appreciate it



Enrollment process

01	Venus	Venus is the second planet from the Sun
02	Mars	Despite being red, Mars is actually a cold place
03	Jupiter	Jupiter is the biggest planet of them all
04	Saturn	Saturn is composed of hydrogen and helium
05	Neptune	Neptune is far away from Earth



Where can you find us?

1st location

Mars is actually a very cold place

2nd location

Mercury is quite a small planet

3rd location

Venus has a beautiful name

4th location

Jupiter is a huge gas giant



Special reminders

Do you know what helps you make your point crystal clear?

Lists like this one:

- ◆ They're simple
- ◆ You can organize your ideas clearly
- ◆ You'll never forget to buy milk!

And the most important thing: the audience won't miss the point of your presentation





Outer Galaxies: Astronomy Education Center

Here is where your presentation begins

Mockup

You can replace the image on the screen with your own work. Just right-click on it and select "Replace image"

Thanks!



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Vectors:

- ◆ Gradient outer space covers
- ◆ Space planets collection
- ◆ Lovely hand drawn galaxy background
- ◆ Cartoon galaxy background
- ◆ Cartoon galaxy background
- ◆ Galaxy background with planets



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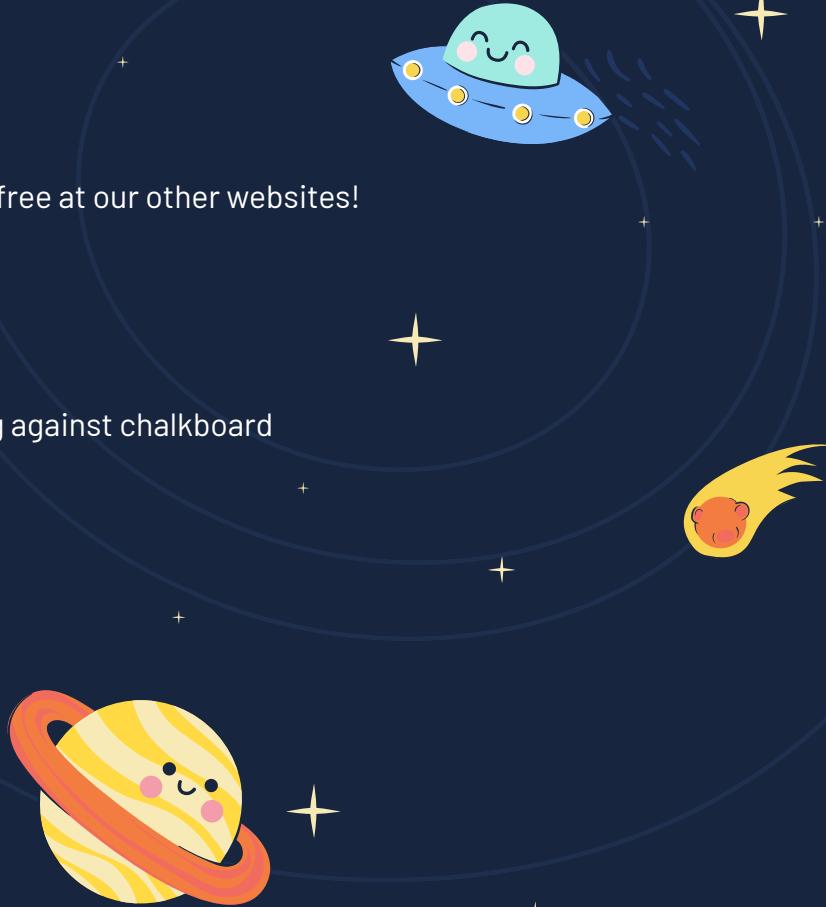
- ◆ Galaxy night panorama
- ◆ Side view little boy using a telescope
- ◆ Beautiful planets in space
- ◆ Senior male professor with arms crossed standing against chalkboard
- ◆ Happy teacher sitting at her desk

Vectors:

- ◆ Children space book cover
- ◆ Children space background
- ◆ Children space book cover
- ◆ Children space illustration I
- ◆ Children space illustration II
- ◆ Children space frame template

Icons:

- ◆ Icon Pack: Space | Lineal color



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Pana



Amico



Bro



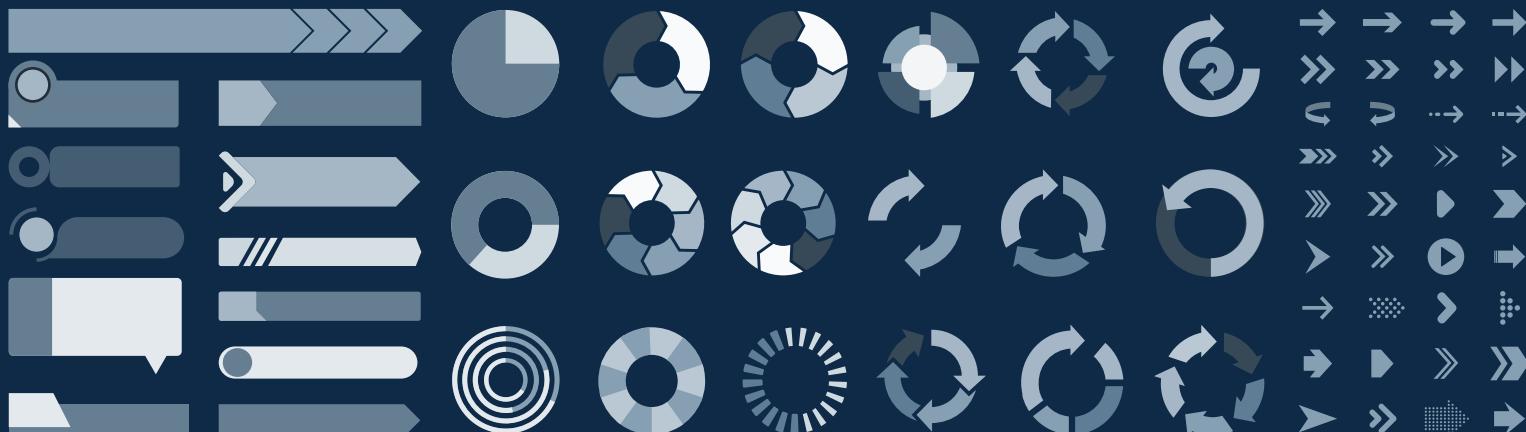
Rafiki



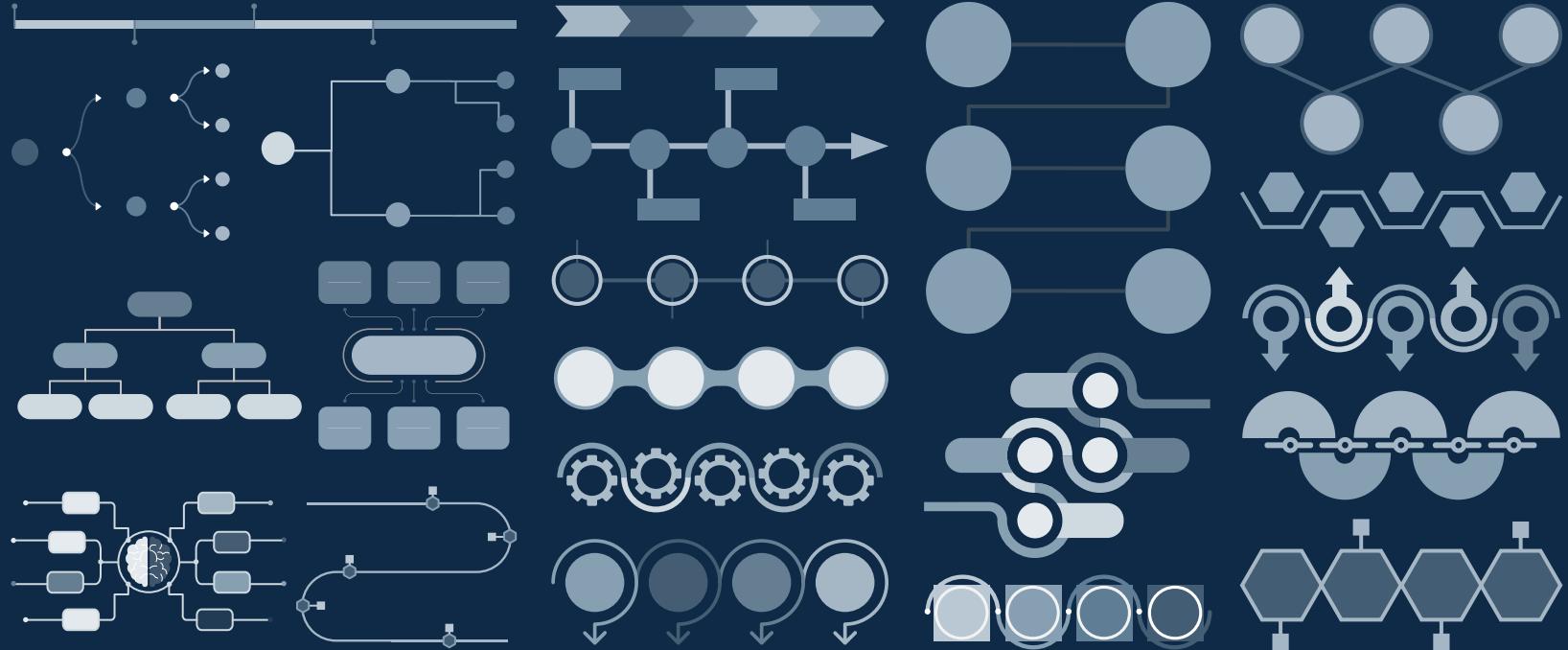
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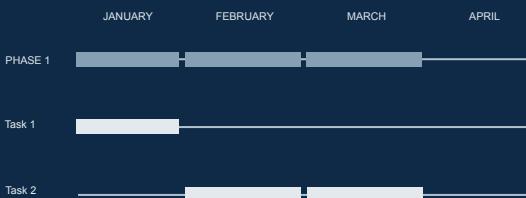
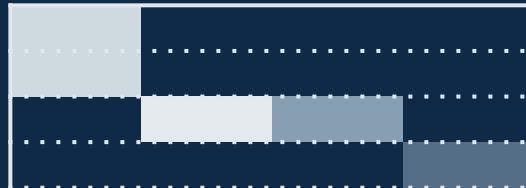
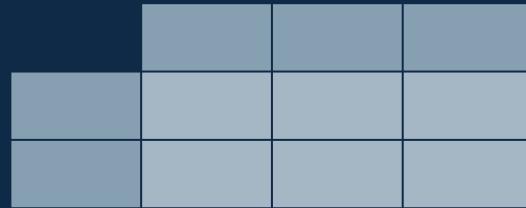
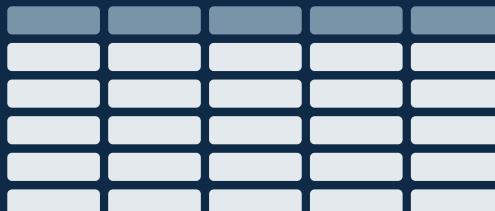
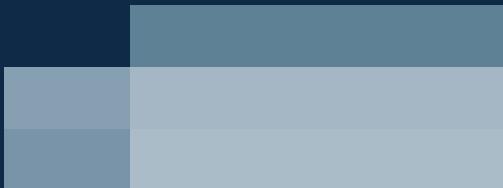
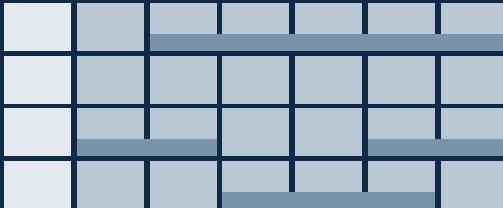
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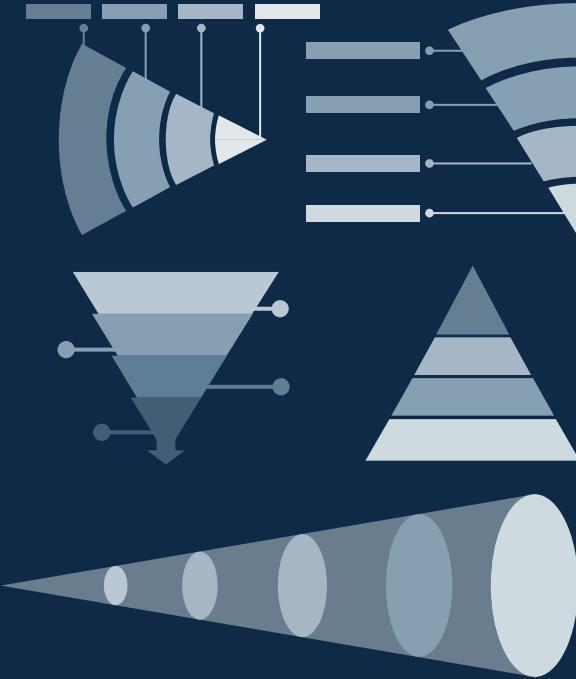
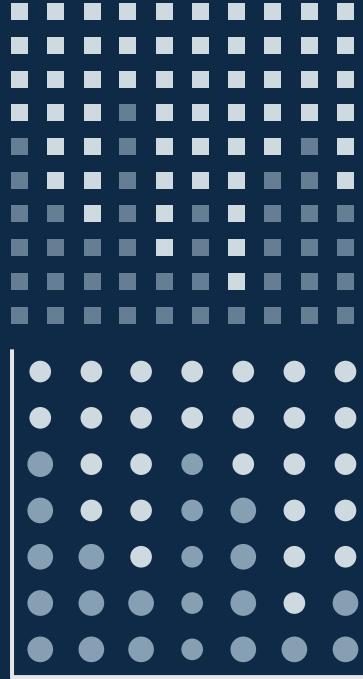












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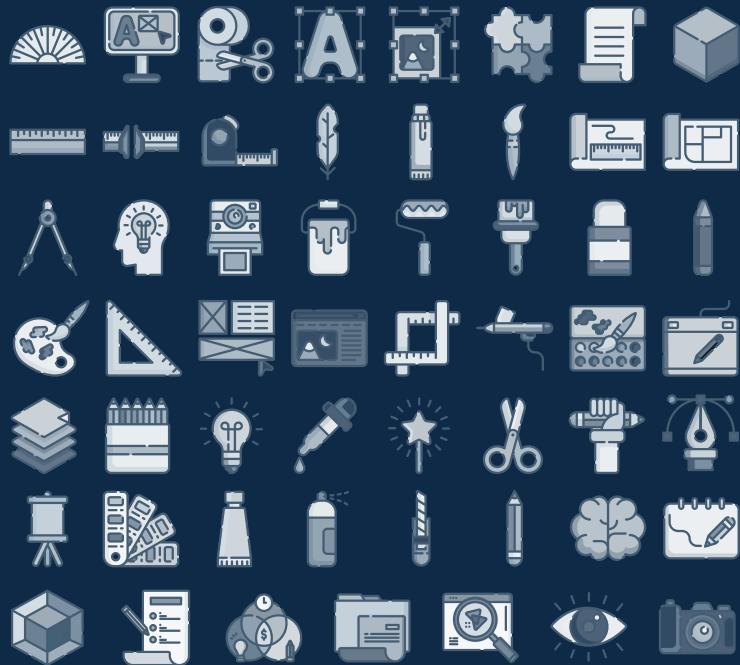
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