ESCAPE

FROM THE CLASSROOM

EDUCATIONAL ESCAPE ROOM WEBINAR

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WEBINAR OBJECTIVES

After this webinar you should be able to:

- Describe the benefits of using educational escape rooms in your practice

- Apply design thinking principles to your EER design process

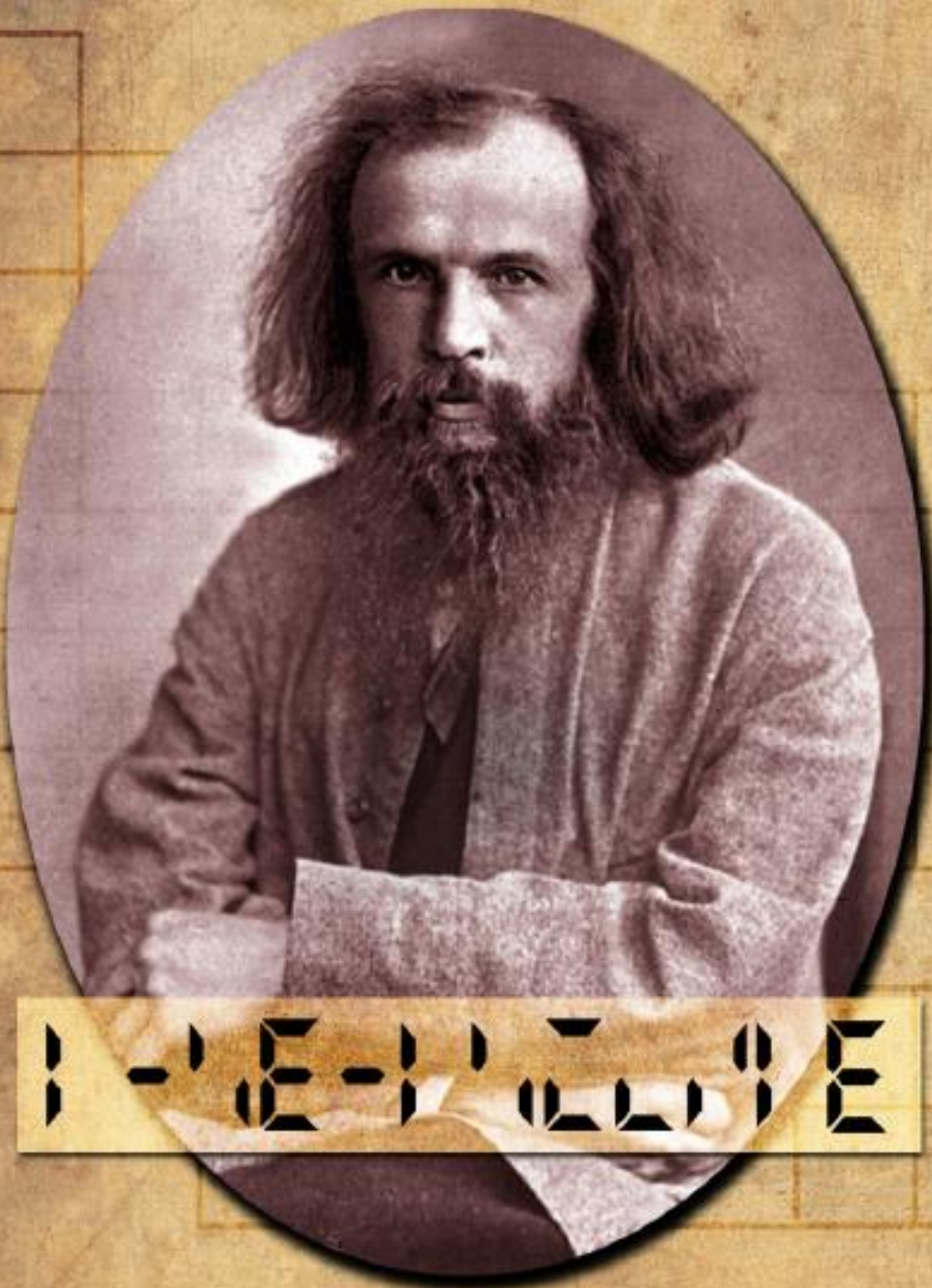- Use a design framework and ChatGPT to create your own EER

ESCAPE ROOM

- A **live-action team** activity
- involving being **locked in a room**,
- **discovering clues** and
- **solving puzzles**
- within a **set period of time**
- in order to **escape** from a fictitious situation.
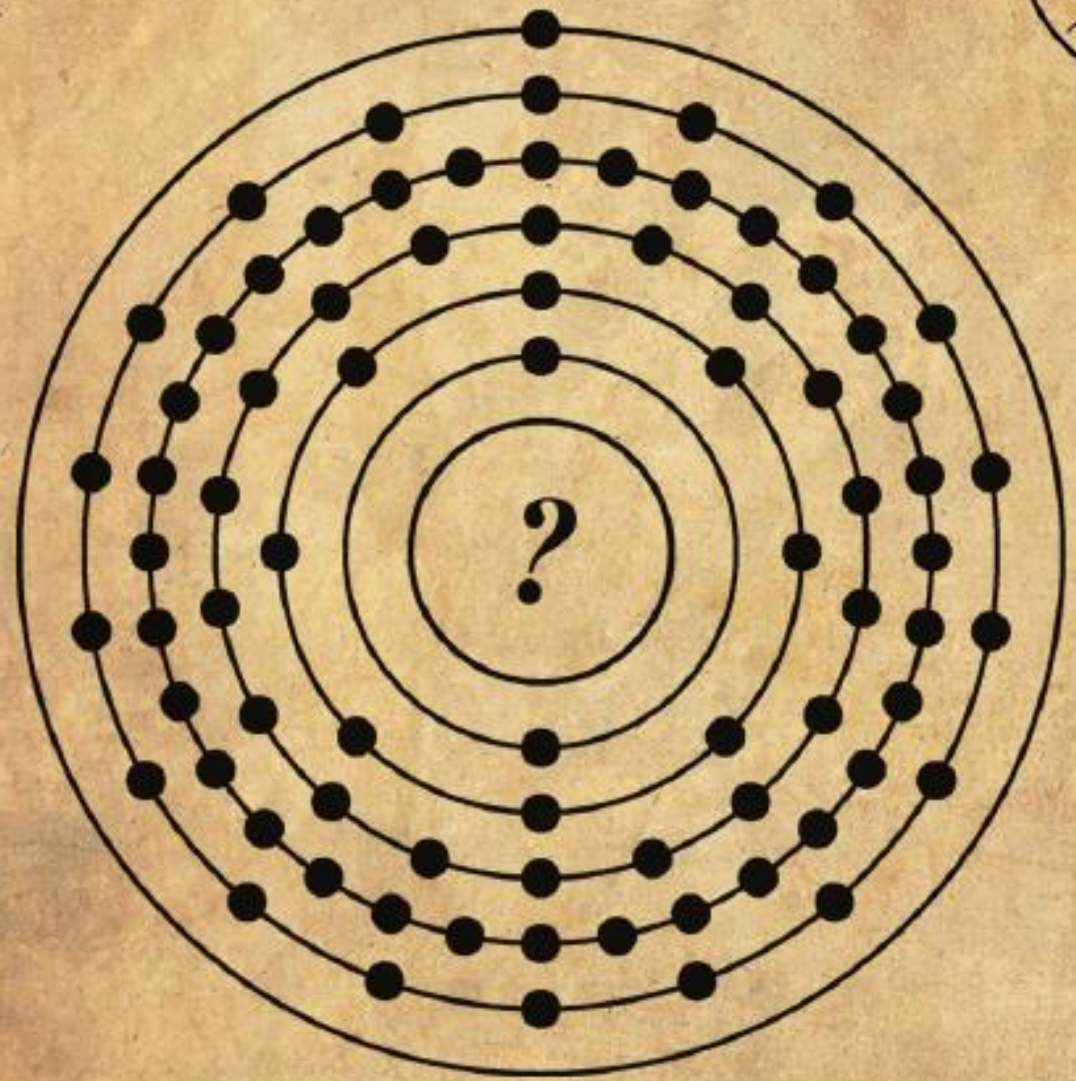
COMMON ESCAPE ROOM CORE LOOP

FIND CHALLENGE TO OVERCOME

SOLVE PUZZLE

GET REWARD

"LOOK FOR PEACE AND CALM IN WORK: YOU WILL FIND IT NOWHERE ELSE."

--DMITRI MENDELEEV

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POSTAL SERVICE

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FC MnPSc'TiB CPMgMgPVBBe

CaOFK CHAr, AlHMnHeB MnPSc

LiHSi KHTiB AlB. F OHTiB

KCaPMgBSi HeScCa SiPCa

HeMn LiOPFLiB...

Periodic Table of the Elements

Legend box: Atomic Number · Melting Point · Symbol · Name · Atomic Mass

Normal melting points are in °C.
TP = Triple Point
Pressure is listed if not 1 atm.
Allotrope is listed if more than one allotrope.

Group headers: 1 (IA/1A), 2 (IIA/2A), 3 (IIIB/3B), 4 (IVB/4B), 5 (VB/5B), 6 (VIB/6B), 7 (VIIB/7B), 8–10 (VIII/8), 11 (IB/1B), 12 (IIB/2B), 13 (IIIA/3A), 14 (IVA/4A), 15 (VA/5A), 16 (VIA/6A), 17 (VIIA/7A), 18 (VIIIA/8A)

Z	Symbol	Name	Melting Point (°C)	Atomic Mass
1	H	Hydrogen	-259.1	1.008
2	He	Helium	-272.20 (2.5 MPa)	4.003
3	Li	Lithium	180.5	6.941
4	Be	Beryllium	1287	9.012
5	B	Boron	2075	10.811
6	C	Carbon	graphite 4489 TP (10.3 MPa)	12.011
7	N	Nitrogen	-210	14.007
8	O	Oxygen	-218.79	15.999
9	F	Fluorine	-219.67 TP	18.998
10	Ne	Neon	-248.609 TP (43 kPa)	20.180
11	Na	Sodium	97.8	22.990
12	Mg	Magnesium	650	24.305
13	Al	Aluminum	660.32	26.982
14	Si	Silicon	1414	28.086
15	P	Phosphorus	white 44.15	30.974
16	S	Sulfur	115.21	32.066
17	Cl	Chlorine	-101.5	35.453
18	Ar	Argon	-189.36 TP (69 kPa)	39.948
19	K	Potassium	63.5	39.098
20	Ca	Calcium	842	40.078
21	Sc	Scandium	1541	44.956
22	Ti	Titanium	1668	47.88
23	V	Vanadium	1910	50.942
24	Cr	Chromium	1907	51.996
25	Mn	Manganese	1246	54.938
26	Fe	Iron	1538	55.933
27	Co	Cobalt	1495	58.933
28	Ni	Nickel	1455	58.693
29	Cu	Copper	1084.62	63.546
30	Zn	Zinc	419.53	65.39
31	Ga	Gallium	29.76 TP	69.732
32	Ge	Germanium	938.25	72.61
33	As	Arsenic	817 TP (3.70 MPa)	74.922
34	Se	Selenium	gray 220.8	78.972
35	Br	Bromine	-7.2	79.904
36	Kr	Krypton	-157.38 TP (73.2 kPa)	84.80
37	Rb	Rubidium	39.3	84.468
38	Sr	Strontium	777	87.62
39	Y	Yttrium	1522	88.906
40	Zr	Zirconium	1855	91.224
41	Nb	Niobium	2477	92.906
42	Mo	Molybdenum	2623	95.95
43	Tc	Technetium	2157	98.907
44	Ru	Ruthenium	2334	101.07
45	Rh	Rhodium	1964	102.906
46	Pd	Palladium	1554.8	106.42
47	Ag	Silver	961.78	107.868
48	Cd	Cadmium	321.07	112.411
49	In	Indium	156.6	114.818
50	Sn	Tin	231.93	118.71
51	Sb	Antimony	630.63	121.760
52	Te	Tellurium	449.51	127.6
53	I	Iodine	113.7	126.904
54	Xe	Xenon	-111.74 TP (81.6 kPa)	131.29
55	Cs	Cesium	28.44	132.905
56	Ba	Barium	727	137.327
57-71				
72	Hf	Hafnium	2233	178.49
73	Ta	Tantalum	3017	180.948
74	W	Tungsten	3422	183.85
75	Re	Rhenium	3185	186.207
76	Os	Osmium	3033	190.23
77	Ir	Iridium	2446	192.22
78	Pt	Platinum	1768.2	195.08
79	Au	Gold	1064.18	196.967
80	Hg	Mercury	-38.83	200.59
81	Tl	Thallium	304	204.383
82	Pb	Lead	327.46	207.2
83	Bi	Bismuth	271.4	208.980
84	Po	Polonium	254	[208.982]
85	At	Astatine	302	209.987
86	Rn	Radon	-71	222.018
87	Fr	Francium	27	223.020
88	Ra	Radium	696	226.025
89-103				
104	Rf	Rutherfordium	unknown	[261]
105	Db	Dubnium	unknown	[262]
106	Sg	Seaborgium	unknown	[266]
107	Bh	Bohrium	unknown	[264]
108	Hs	Hassium	unknown	[269]
109	Mt	Meitnerium	unknown	[268]
110	Ds	Darmstadtium	unknown	[269]
111	Rg	Roentgenium	unknown	[272]
112	Cn	Copernicium	unknown	[277]
113	Uut	Ununtrium	unknown	unknown
114	Fl	Flerovium	unknown	unknown
115	Uup	Ununpentium	unknown	unknown
116	Lv	Livermorium	unknown	[298]
117	Uus	Ununseptium	unknown	unknown
118	Uuo	Ununoctium	unknown	unknown

Lanthanide Series

Z	Symbol	Name	Melting Point (°C)	Atomic Mass
57	La	Lanthanum	920	138.906
58	Ce	Cerium	799	140.115
59	Pr	Praseodymium	931	140.908
60	Nd	Neodymium	1016	144.24
61	Pm	Promethium	1042	144.913
62	Sm	Samarium	1072	150.36
63	Eu	Europium	822	151.966
64	Gd	Gadolinium	1313	157.25
65	Tb	Terbium	1356	158.925
66	Dy	Dysprosium	1412	162.50
67	Ho	Holmium	1472	164.930
68	Er	Erbium	1529	167.26
69	Tm	Thulium	1545	168.934
70	Yb	Ytterbium	824	173.04
71	Lu	Lutetium	1663	174.967

Actinide Series

Z	Symbol	Name	Melting Point (°C)	Atomic Mass
89	Ac	Actinium	1050	227.028
90	Th	Thorium	1750	232.038
91	Pa	Protactinium	1572	231.036
92	U	Uranium	1135	238.029
93	Np	Neptunium	664	237.048
94	Pu	Plutonium	640	244.064
95	Am	Americium	1176	243.061
96	Cm	Curium	1345	247.070
97	Bk	Berkelium	996	247.070
98	Cf	Californium	900	251.080
99	Es	Einsteinium	860	[254]
100	Fm	Fermium	1527	257.095
101	Md	Mendelevium	827	258.1
102	No	Nobelium	unknown	259.101
103	Lr	Lawrencium	unknown	[262]

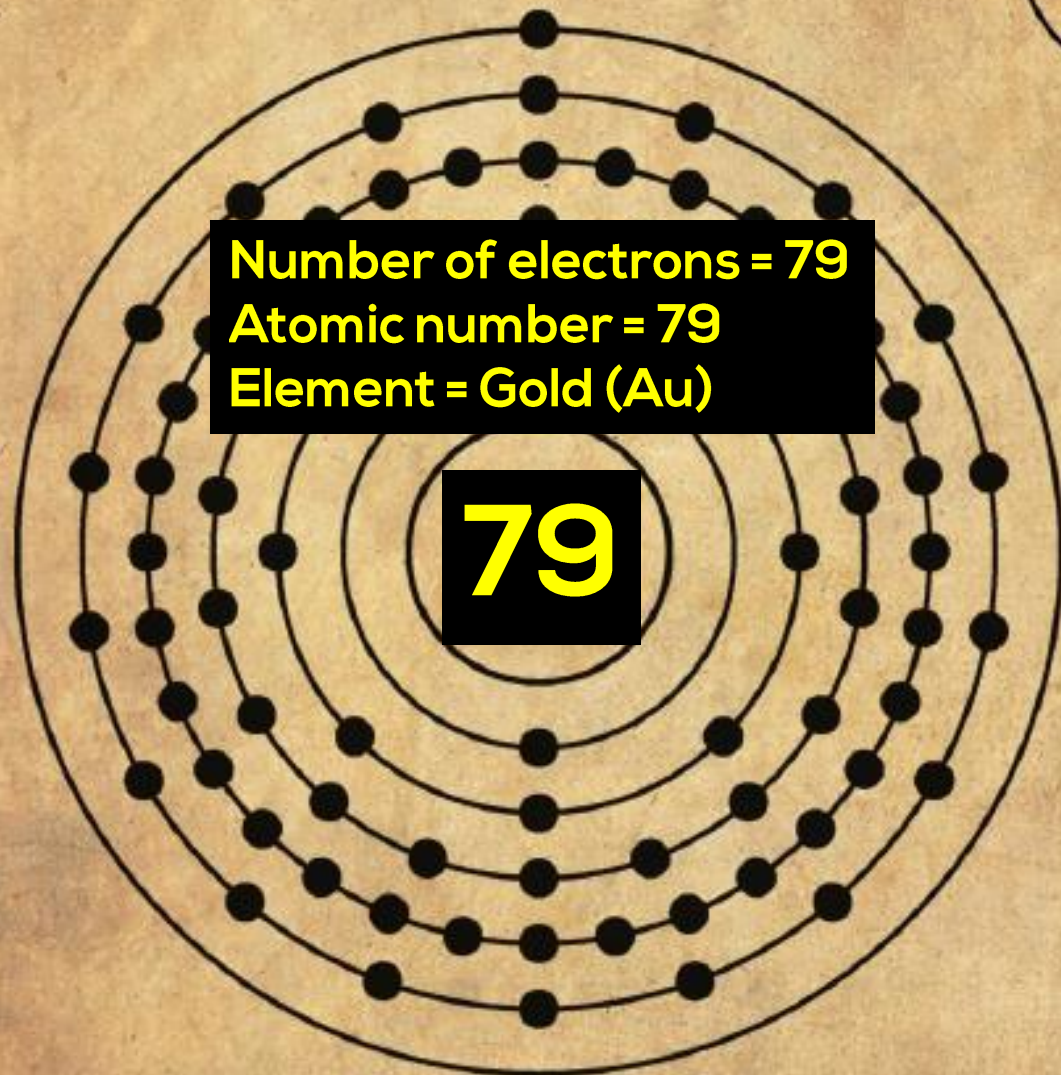**Legend:** Alkali Metal · Alkaline Earth · Transition Metal · Basic Metal · Semimetal · Nonmetal · Halogen · Noble Gas · Lanthanide · Actinide
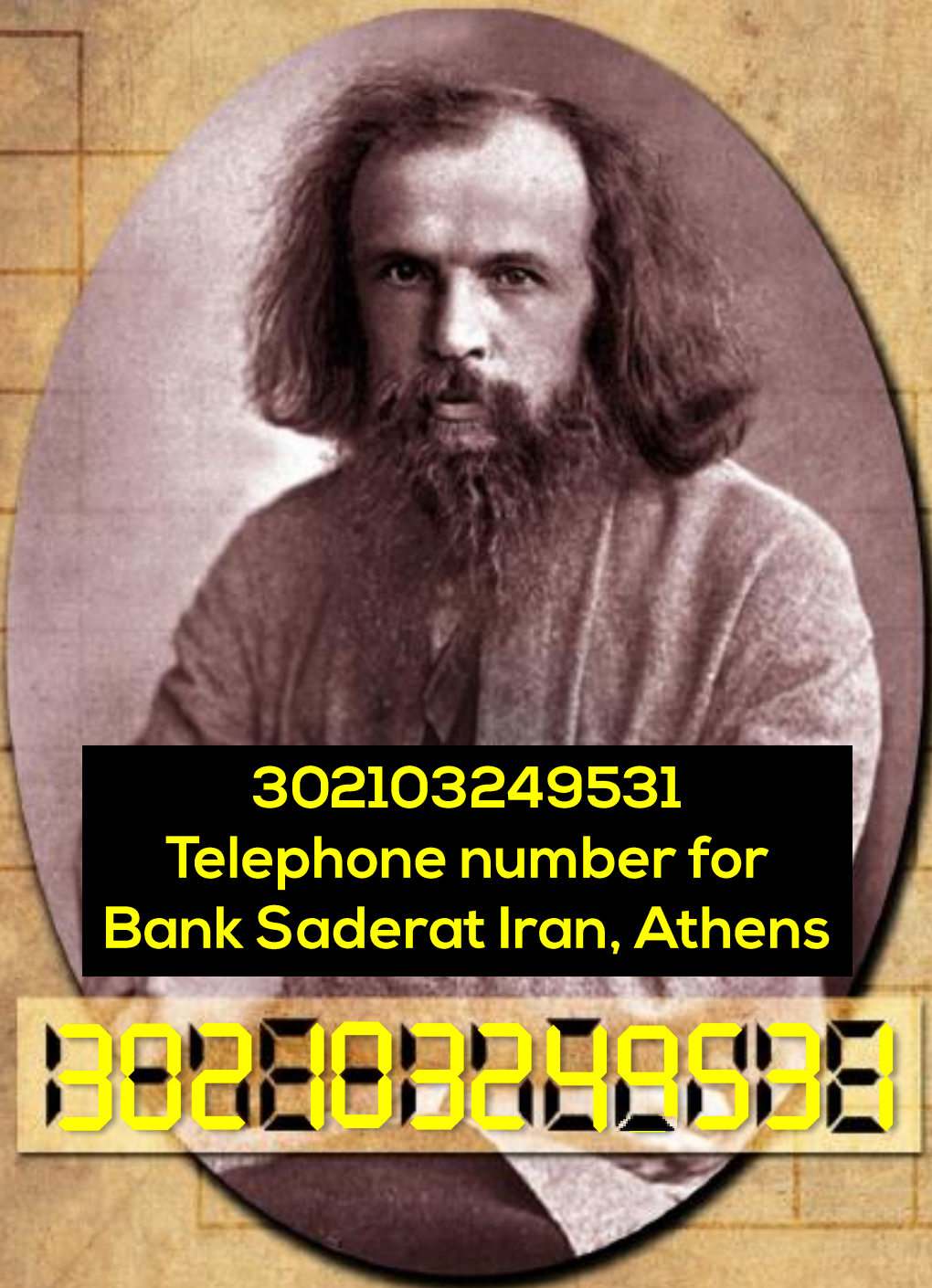
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--DMITRI MENDELEEV

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Bank Saderat Iran, Athens

30210324953

Periodic Table of Elements

John Dillinger

Ma Barker

Jesse James

10.81

39.948

32.06

Atomic weight of Boron (B)

Atomic weight of Argon (Ar)
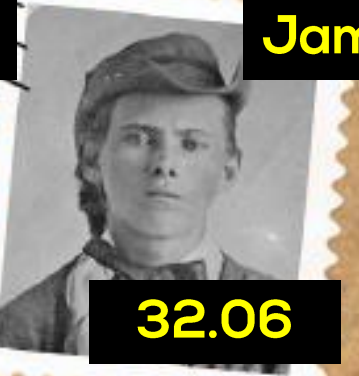
Atomic weight of Sulfur (S)

Number of electrons = 79
Atomic number = 79
Element = Gold (Au)

79

F *C MnPSc'TiB CPMgMgPVBBe*

F = Atomic symbol of Fluorine
Atomic number = 9
9th Letter in the alphabet = I

If you've followed this far, maybe you can save me. I have stolen but not by choice...

Ahhh... &%@#!

We Escaped
Riddler's Escape Rooms

HEROES

COMPANY TRAINING DAY VS. ESCAPE ROOM TRAINING

EDUCATIONAL ESCAPE ROOM

An **instructional method** requiring learners to:

- participate in **collaborative or solo playful activities**

- explicitly designed **for domain knowledge acquisition**, **skill development**, or **behavioural change**

- so that they can accomplish a specific **goal** (e.g., escape from a physical/virtual room)

- by **solving puzzles** linked to unambiguous **learning outcomes**

- in a **limited amount of time**.

PURPOSES

- Induction
  - Introduction to company culture and values
  - Orientation to the workplace
  - Safety training
  - Team-building
  - Introducing company policies and procedures
  - Onboarding
  - Technical training
- Reinforce content knowledge
- Evaluate learning outcomes
- After-school activities
- School Fundraiser

BENEFITS: INTRAPERSONAL SKILLS

- Perseverance (it's OK to fail)

- Time management

- Increased confidence in critical thinking and decision-making

- Problem-solving

- Attention to detail

- Cognitive flexibility

- Creativity and innovation

- Increased self-esteem

- Spatial reasoning

- Cultural understanding and appreciation

BENEFITS: INTERPERSONAL SKILLS

- Communication

- Collaboration

- Improved ability to delegate tasks and work as a team

- Community building: learning about your own and other people's strengths

- Appreciate the diversity of thinking strategies encountered in any group of people

BENEFITS: ACADEMIC SKILLS

- Reading comprehension
- Preview and review material
- Stronger emotional connection to curriculum material
- Higher rates of retention
- Increased motivation due to competition
- Opportunity for feedback and practice
- Entrepreneurship: students could build a business around this

ROOM2EDUC8 FRAMEWORK

- Borrows elements from Design Thinking

- Learner-centred approach

- Prescribed nature makes it scalable and approachable

- Stages are verbs, not deliverables

- Take the framework as a recipe and tweak it as needed

ROOM2 EDUC8

EMPATHISE
- Demographics
- Background
- Skill level
- Learning style
- Needs
- Motivation
- Frustrations
- Goals

DEFINE
- Problem statement
- S.M.A.R.T. goals
- Learning objectives
- Constraints
- Required knowledge
- Group size
- Playtime length
- Game type
- Curriculum position

CONTEXTUALISE
- Theme
- Setting
- Story
- Characters
- Narrative
- Environment

DESIGN
- Puzzle design
- Game flow
- Game assets
- Room layout
- Hint system
- Scoring system
- Rules

BRIEF
- Introduction
- Instructions

DEBRIEF
- Outro
- Debriefing
- Revision material
- Group photo

PROTOTYPE
- Lo-fi prototype
- Hi-fi prototype
- Facilitator guide
- Setup/reset instructions

EVALUATE
- Playtesting
- Observation
- Interview
- Survey
- Focus group
- Pre/post test

DON'T PANIC

- Creating an educational escape room could require a lot of effort

- Working in a team is highly recommended

- Make something simple in Google Forms or Genial.ly

- Use AI tools to speed up the design process
  - ChatGPT is a large language model trained by OpenAI that can generate human-like text based on the input provided to it
  - Midjourney is an AI system that generates realistic visuals and arts from natural language descriptions

SAMPLE CHATGPT PROMPT

- "Act as a [subject matter] educator with a background in game-based learning, design thinking, and escape room design. Your goal is to design an educational escape room about [escape room topic] aimed at [target audience] using the Room2Educ8 framework."

- Then provide ChatGPT with a statement that synopsises every step of the framework

- Follow this with specific prompts about the help you want

EMPATHISE

- Gain an empathic understanding of:
  - The people you are designing the escape room for
  - The problem you are trying to solve
- Gather information about your learners
  - Quantitative data (surveys, Virtual Learning Environment)
  - Qualitative data (interviews, focus groups, ethnographic research, observations)
  - Speak with their supervisors or stakeholders

Persona 1: Simon, Sales

Job Title: Sales Manager	**Responsibilities**: Mentorship and training of junior associates, setting quotas and goals, creating sales strategies and tactics, analyzing sales data.
Time With Company: 3 years	
Seniority Level: Management	**Defining Traits**: Enthusiastic, ambitious, good communicator

Bio

Simon joined the company as a sales executive three years ago. Last year, he was promoted to sales manager and, while he has been doing a great job, he needs further training to finesse his leadership skills. He is ambitious and expected to progress further within the company quickly. He has an analytical mindset but also has great communication skills and works very well with other team members at all levels.

Learning Preferences

- Overall, prefers to take his training needs into his own hands with self-directed, self-paced learning
- Likes online training but also enjoys collaborative ILT sessions with team members

Goals & Ambitions

- **Immediate**: Improve performance of his team
- **Short term**: Progress to director of sales role
- **Long term**: Executive management

Challenges

- Effectively managing and motivating his team
- Does not have a lot of free time for training and learning
- Finding the best path to progression in his career

Stats/Ratings

	Low				High
Motivation for training	●	●	●	●	○
Comfort with technology	●	●	●	○	○
Overall hard skill competency	●	●	○	○	○
Overall soft skill competency	●	●	●	●	○
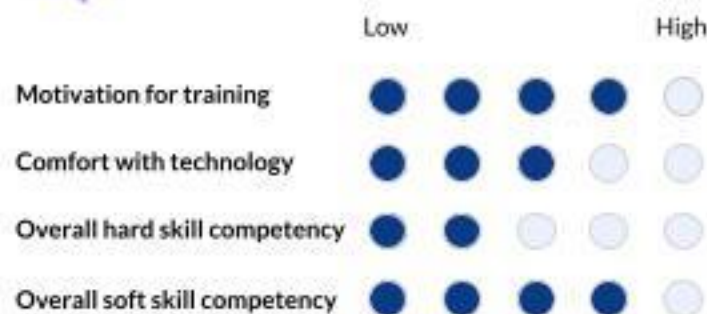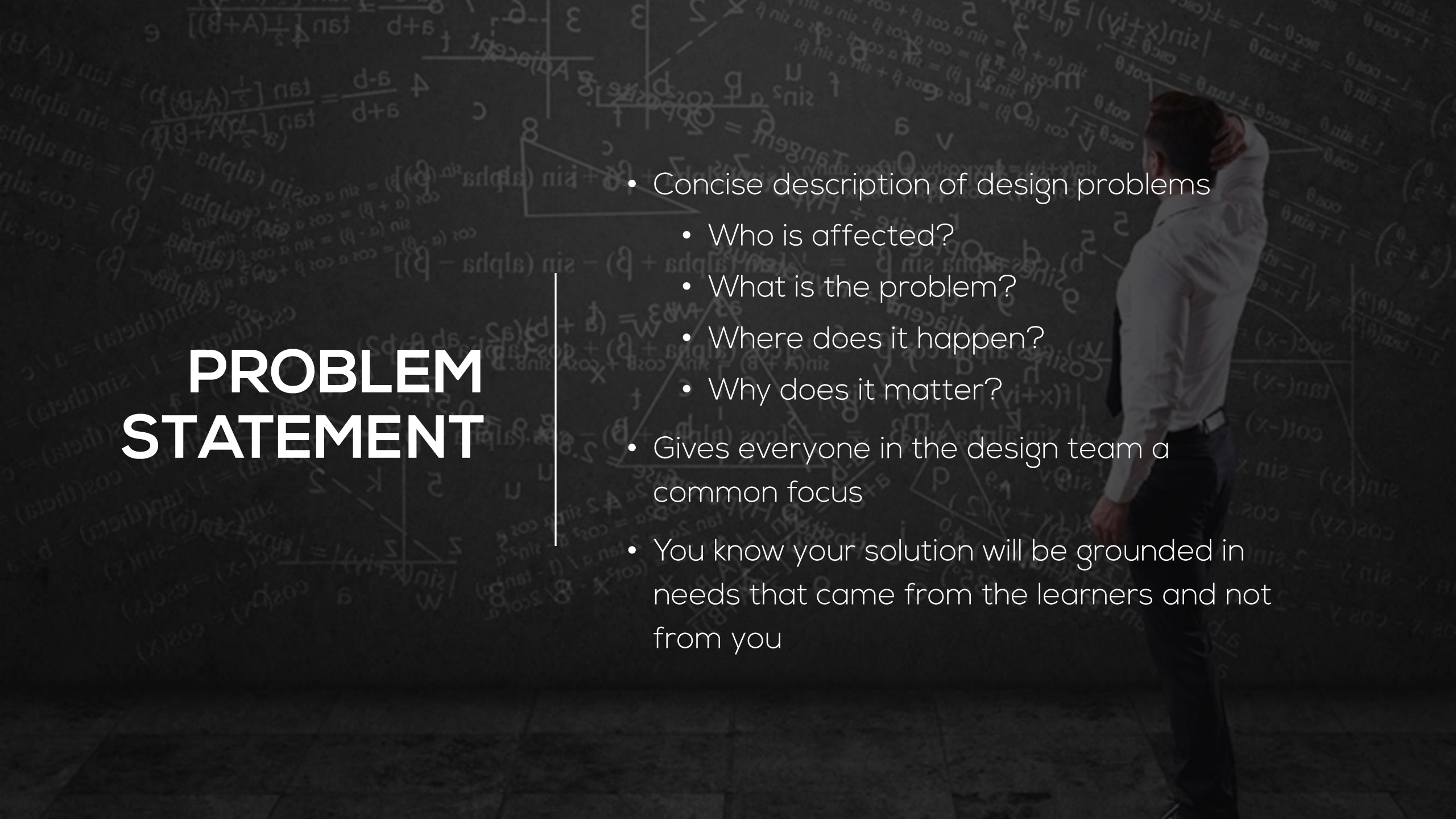
SAMPLE CHATGPT PROMPTS

"Act as a [role]"

"Write a detailed learner persona for a first-year undergraduate art student who has little knowledge of the Bauhaus art school and its impact on art and architecture."

"Write 10 survey questions to gather information about the knowledge and interests of first-year undergraduate art students regarding the Bauhaus art school and its impact on art and architecture."

PROBLEM STATEMENT

- Concise description of design problems
  - Who is affected?
  - What is the problem?
  - Where does it happen?
  - Why does it matter?
- Gives everyone in the design team a common focus
- You know your solution will be grounded in needs that came from the learners and not from you

SAMPLE PROBLEM STATEMENT

- Employees (**who is affected?**)

- need an engaging, memorable, and easy-to-understand Security Awareness Training (**need**)

- because they are bored and distracted by their organisation's tedious computer-based e-learning SAT (**what is the problem?**)

- and therefore become a big security risk (**why does it matter?**)

S.M.A.R.T. GOALS

- What is the overall purpose of the escape room?

- What are the learning outcomes this room is going to support?

- Will the escape room be used for formative or summative assessment?

- How can you quantify or qualify that the learning outcomes have been met?

- Do learners have the necessary skills to play?

- How many learning outcomes are sufficient without overloading participants?

- What is the deadline or time restraint to develop the escape room?

- How many sessions will be necessary to involve all participants?

SAMPLE S.M.A.R.T. GOAL

In the next three months,
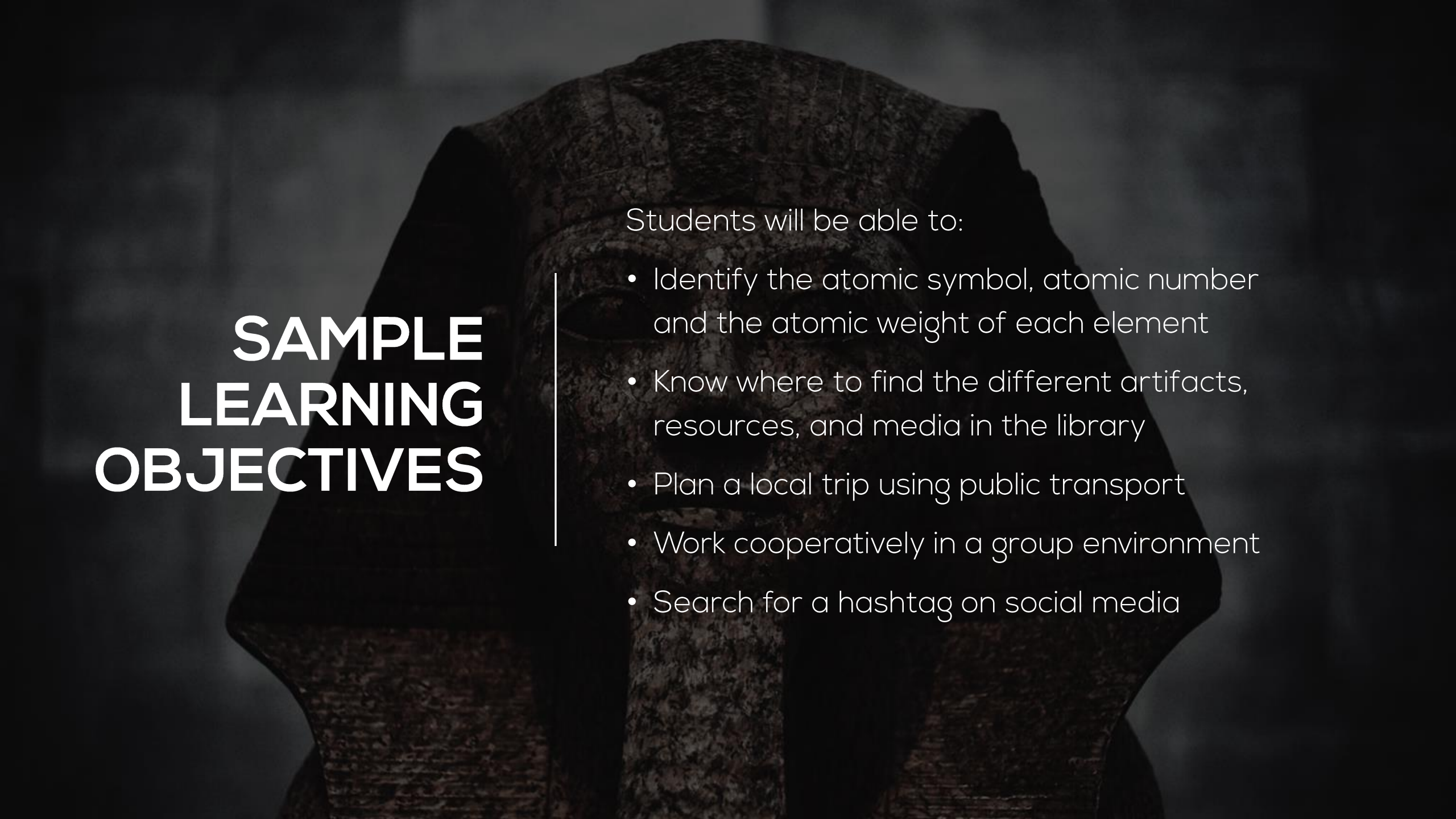
we will design a math-based educational escape room

for grade 5 students

that focuses on problem-solving skills,

with the goal that at least 75% of the students will correctly solve the math-related puzzles

within the hour-long time limit of the escape room

SAMPLE LEARNING OBJECTIVES
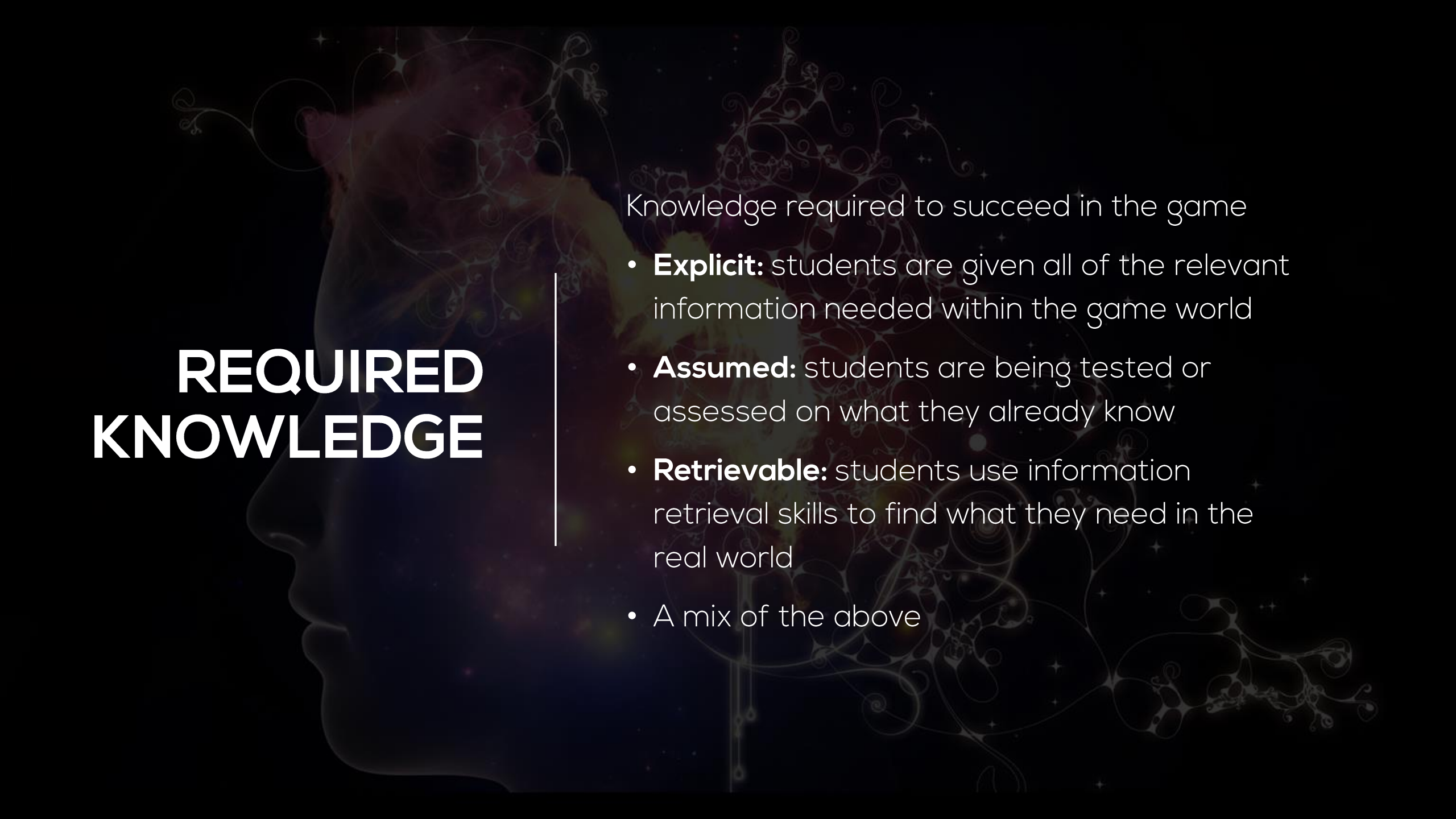
Students will be able to:

- Identify the atomic symbol, atomic number and the atomic weight of each element

- Know where to find the different artifacts, resources, and media in the library

- Plan a local trip using public transport

- Work cooperatively in a group environment

- Search for a hashtag on social media

CONSTRAINTS

- Time
- Resources
- Space
- Safety
- Difficulty level
- Accessibility
- Curriculum alignment
- Group size
- Cost
- Staff availability

REQUIRED KNOWLEDGE

Knowledge required to succeed in the game

- **Explicit:** students are given all of the relevant information needed within the game world

- **Assumed:** students are being tested or assessed on what they already know

- **Retrievable:** students use information retrieval skills to find what they need in the real world

- A mix of the above

GROUP SIZE

- With groups of 4-6 students everyone can be active and involved in the group process

- Larger teams can have a negative effect on communication and team organisation

- Dealing with large groups
  - Break the group into smaller teams – each team can work on a different set of puzzles and come together at the end to share their solutions and solve the final puzzle
  - Create parallel paths
  - Utilise digital tools and platforms
  - Create rotating stations

GAME TYPE

- Physical escape room (pop-up or permanent)
- Breakout box
- Puzzle hunt
- Digital escape room
- Hybrid game
- Serial story

PLAYTIME LENGTH

- Most escape rooms last 60 minutes
  - Allow for a sufficient number of puzzles to be used
  - Offer ample time for students to work as a team
  - Fit into one hour of instruction
- Two-hour sessions allow for briefing and debriefing sessions
- Shorter games require less development time
- Longer games can use more meaningful challenges that require more time and effort to be solved

GAME POSITIONING IN COURSE CURRICULUM

- Stand-alone activity (e.g., icebreaker, induction)

- Embedded in course curriculum
  - One-off event that may take place:
    - at the introduction of a course
    - during a course in addition to a lecture
    - as assessment
  - Serial story
    - Self-contained episode that forms part of a nested experience
    - Shorter length
    - Runs periodically
    - Story is told throughout the course

SAMPLE CHATGPT PROMPTS

"Act as a [role]"

"Using the information gathered from our focus group and survey, create a problem statement for our educational escape room that highlights [the gap in understanding we aim to address] and [the learning objectives we hope to achieve]."

"Create a list of 3 measurable and specific learning objectives that align with the identified gap in understanding and the problem statement developed in the previous step."

"Generate a list of at least 5 constraints that must be considered when designing our educational escape room."

CONTEXT

- Gives life and character to an escape room

- Gives meaning to the activities that the players do

- Provides an authentic reason for escaping

- Links the puzzles together in a cohesive storyline

- Emotionally engages students with learning outcomes and strengthens their comprehension and capacity to learn

THEME

A concept that sets a room's tone, look and feel

- Treasure hunt
- Prison break
- Sci-Fi
- Dystopian
- Mystery
- Horror
- Heist
- Historical
- Paranormal

SETTING

The time period and place where the game is set

- A haunted house in Victorian England,

- A detective's office in New York during the roaring 1920s

- A Pharaoh's tomb in Ancient Egypt

STORY

- Encompasses **who** the characters are, **what** conflicts they are facing, and **where** this is taking place
- Example
  - The players are a team of private investigators who use the opportunity of an invitation at their client's CEO's home to steal evidence of his involvement in misappropriation of funds and bring him to justice

QUESTIONS ANSWERED BY AN ESCAPE ROOM PLOT

- Why are the players in the room?

- How did they get there?

- What do they need to do to escape or succeed?

- What is at stake if they do not escape?

- What are the rewards?

- Why do they need to hurry?

- Why are puzzles and clues in the room?

- Who put them there?

- How do they fit into the story?

- Who is the game master, why is he/she there, why is he/she giving hints?

CHARACTERS

- Characters are fictional identities created as part of the plot
  - Protagonists (player characters)
  - Antagonists (enemies to your players)
  - Allies (helping your players)

STORY FORMAT

- Stand-alone (like a full movie)

- Episodic (framed as an episode in a series with a continuous narrative arc)

ENVIRONMENT

- Location
- Decoration
  - Adjust the lighting
  - Use props and technology that match your theme
- Audio
  - Ambient noise
  - Tabletop game background music
  - Soundtrack
  - Playlist
- Video
- Costumes
  - Provide on-theme costume accessories

SAMPLE CHATGPT PROMPTS

"Act as a [role]"

"Create a list of possible themes and settings for an educational escape room that align with the Bauhaus art school and its impact on art and architecture."

"Write a detailed plot and character descriptions that align with the problem statement and learning objectives developed in previous steps."

"Using the theme, setting, plot, and characters developed in previous steps generate a script for a video introduction that sets the stage and provides background information for the educational escape room."

COGNITIVE PUZZLES

- Make use of the players' thinking skills and logic

- Players must deduce, correlate, or decipher clues to arrive at an answer

- Pattern recognition

- Spatial (using maps, coordinates, overlays)

- Numbers (counting, equations, basic math puzzles, **sudoku**)

COGNITIVE PUZZLES (CONT'D)
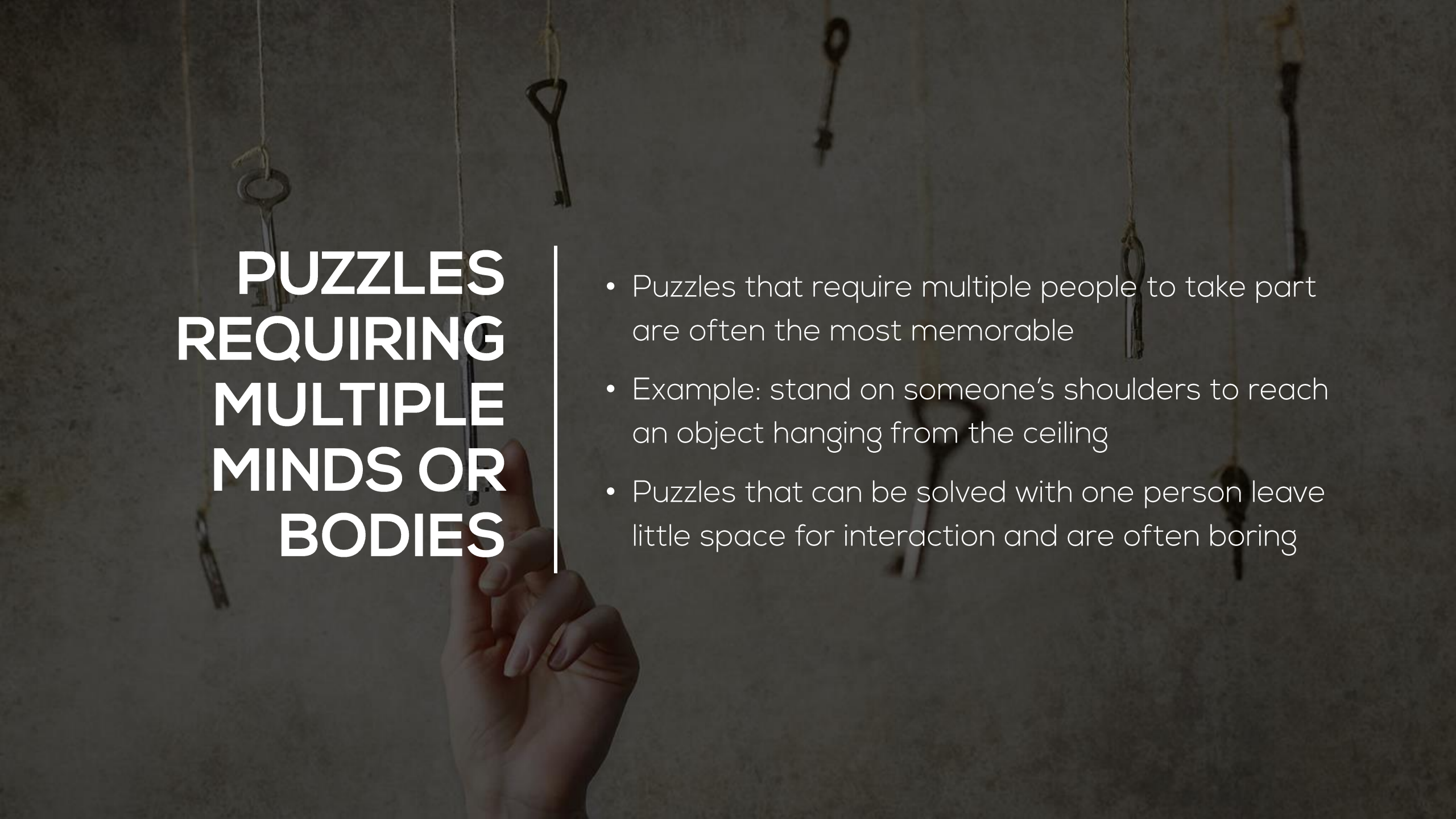
- Text (crosswords, **acrostic**, **word search**, missing-letter puzzles)

- Riddles

- Mazes containing letters or numbers

- **Connect the dots**

- **Paint by numbers**

- **Nonograms**

ENCRYPTED AND PASSWORD PROTECTED PUZZLES

- Ciphers
  - **Morse code**
  - **Braille code**
  - **Caesar cipher**
  - **ROT-13**
  - **Pigpen cipher**
  - **Book cipher**
  - **Atbash cipher**

- Password-protected documents / websites

PHYSICAL PUZZLES (TASKS)

- Require the manipulation of artefacts to overcome a challenge

- Undoing knots, moving objects, magnets, mirrors, jigsaw puzzles, measuring

- Mazes / secret passages

- Hidden objects

- Locks

- **Scytale cipher**

PUZZLES REQUIRING MULTIPLE MINDS OR BODIES

- Puzzles that require multiple people to take part are often the most memorable

- Example: stand on someone's shoulders to reach an object hanging from the ceiling

- Puzzles that can be solved with one person leave little space for interaction and are often boring

SENSORY PUZZLES

- Puzzles that engaged multiple senses can be very interesting

- Light (black light clues)

- Sound (repeating audio patterns, musical notes)

- Limit the senses (turn off lights, blindfold players, do not allow players to speak for the first part of the game)

TECHNOLOGY PUZZLES

- QR codes
- Augmented Reality
- Virtual Reality
- Locked computers and phones
- Fingerprint reader
- Audio files
- E-mail
- Websites
- Online maps
- USB drives

META PUZZLE

- A puzzle that unites several puzzles that lead into it

- Usually, the last puzzle in the game in which the final code or solution is derived from the solutions of previous puzzles

PUZZLE DESIGN PRINCIPLES

- Relevance
- Challenge
- Clues and hints
- Engagement
- Flow
- Storyline integration
- Real-world connection
- Variety
- Scalability
- Safety

PUZZLE TYPES TO AVOID

- Puzzles that rely heavily on:
  - Language
  - Culture
  - Specific knowledge (unless used to test knowledge)
  - Luck
- Puzzles without one definite solution
- Puzzles with ambiguities – do not make players guess
- Technology that may be finicky
- Red herrings

WAYS TO ADD NUMBERS TO PUZZLES

- Use the shape of clock hands to disguise a number

- Give players a message written in letters and have them use the number keys on a phone to identify which numbers match the letters

- Hide numbers in a block of text by replacing some letters with numbers
  - app1es, ba5ement, w0nderful, sup3r

WAYS TO ADD NUMBERS TO PUZZLES (CONT'D)

- **Seven segment display**
- Upside-down seven segment display numbers
  - Numbers entered into a calculator turned upside-down can spell something
  - 35007 = LOOSE
- **Roman numerals**
- **Binary**

OBJECTS WITH NUMBERS

- Dice

- Playing cards

- Scrabble tiles

- Dominoes

- Longitude and latitude

- Percent cotton or polyester in a shirt

- Licence plates

- Weight, length, height, and width of items

- TV channels

- Page number of books

- Phone numbers

- Dates

REPLACING LETTERS WITH OTHER LETTERS

- **Cipher disc**
- **Caesar cipher**
- **ROT13**
- **Atbash cipher**
- **Vigenère cipher**
- **Columnar transposition**
- **Anagram**
- **Reverse writing**

REPLACING LETTERS WITH NUMBERS

- **A1Z26 cipher**

- **Polybius square cipher**

- **ASCII code**

REPLACING LETTERS WITH SYMBOLS

- **Symbol ciphers**

- **Pigpen cipher**

- **Braille**

- **Morse code**

- **Dancing men cipher**

HIDDEN MESSAGES WITH LETTERS

- LEaVE SOME LETTERS In tHE LINE LOWERCASE

- selEct certAin letters in the messaGe to capitaLise so thEy stand out

- Have s_me of _he let_ers missing, mark_d by unde_scores or empty boxes

- Add exttra letters to some words, whiich works best when duplicatingg letters that shouldn't bee duplicated or rrepeated

Today's Message

A gush of bird song, a patter of dew
A cloud and a rainbow's warning;
Suddenly sunshine and perfect blue
An April day in the morning!

Harriet Elizabeth Prescott Spofford

New London Times

Weather Forecast

Although lately the temperature allowed us to work as long as to 9 o'clock, upcoming winds and cold will bring with them a serious risk of frostbite.

ISSUE N° PJBGR-IR3DP-LDQ62   FRIDAY, NOVEMBER 18TH 887   NEW LONDON

HIDDEN MESSAGES WITH LETTERS (CONT'D)

- Res**l**ace some letters with incorrect letters. This w**k**y, the **i**ucorrect letters might require cons**i**neration, or the correct letters they take the p**l**kace of, or both.

- <u>S</u>imply plac<u>e</u> a dot or underline under import<u>a</u>nt <u>l</u>etters

- Make ce**r**tain letters or c**h**aracters a differe**n**t col**o**ur than the surrounding text

- **<u>NATO phonetic alphabet</u>**

ITEMS WITH LETTERS ON THEM

- Grades (on report cards or tests)

- Magnet letters

- Keys on a computer keyboard

- Periodic table of elements

- Tiles from Scrabble

- Airport codes

- Country codes

- Book of sheet music (musical notes A, B, C, D, E, F, G)

- Initial letters of objects

HIDDEN MESSAGES WITH WORDS

- Translation
  - *With* in Portuguese is **com**
  - *Bread* in Spanish is **pan**
  - *And* in Spanish is **y**
  - Put together, these three words spell **company**

- **Book cipher**

- **Ambigrams**

HIDDEN MESSAGES WITH WORDS (CONT'D)

- **<u>Mondegreens</u>**
  - Re doll yell oh let hers -> read all yellow letters
- Perspective
  - Create a message by stretching a word digitally so that it can only be read if the page is tilted to an extreme angle
- Split words
- Mirrors

PUZZLE STRUCTURE TYPES

META-PUZZLE

PARTIAL SOLUTION

META-PUZZLE

META-PUZZLE

META-PUZZLE

OPEN

LINEAR

PATH-BASED

PYRAMID
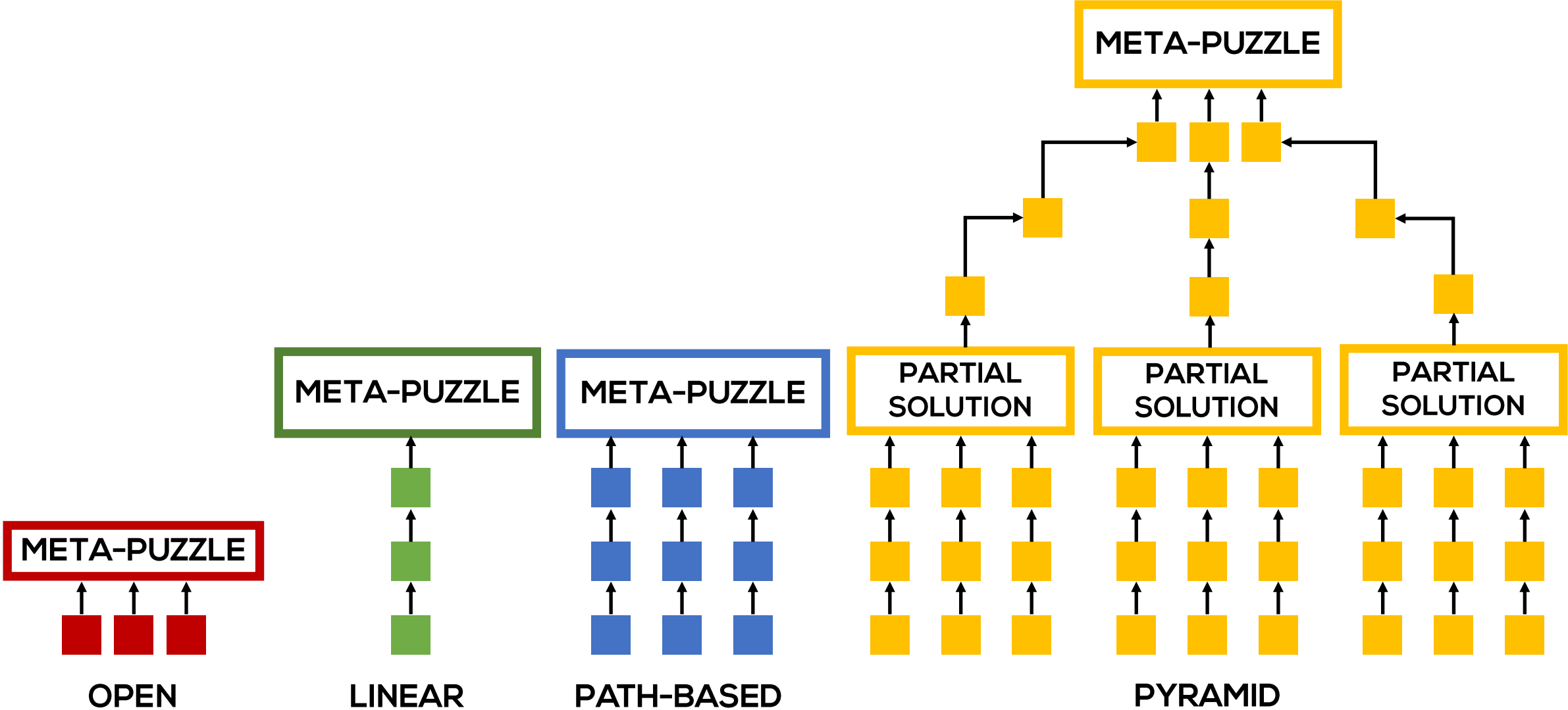
WHICH IS A BETTER CHOICE?

Consider:

- How much time you have to construct a complex game and storyline

- How much space you have where you are building it

- What is the game's duration

- How many people will be playing your game at once

- How many puzzles you want

- What kind of supplies you can get

GAME FLOW

- Draw a room map with clue placements and arrangements of the puzzles
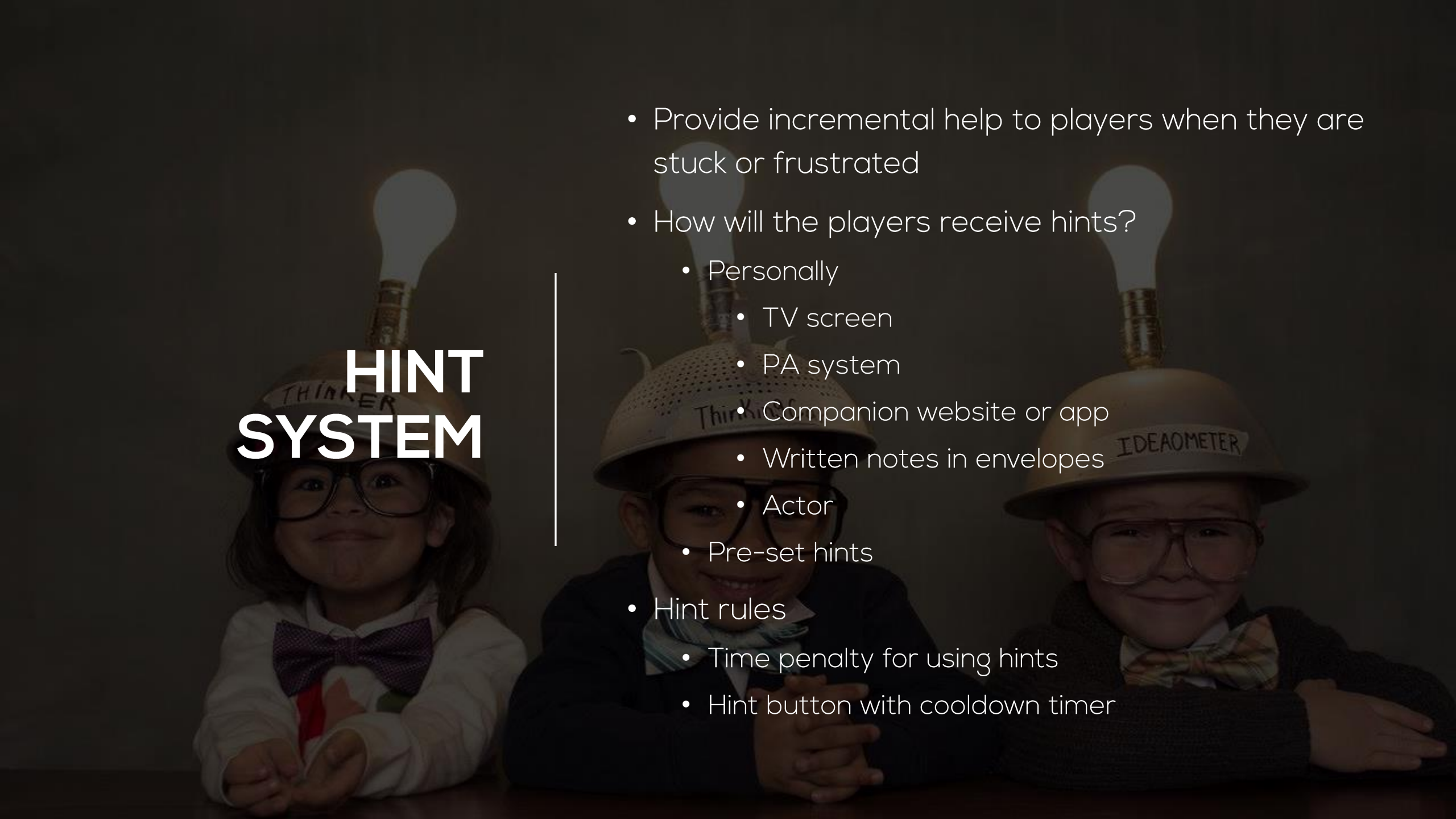
- Use cards to provide details of:
  - Each individual puzzle and its location in the room
  - Starting objects in each location
  - What prompts players to start each puzzle?
  - What clue/reward makes players go to the next puzzle?
  - Flowchart mapping out how players will navigate the room
- "**One clue, one use**" rule

GAME ASSETS

- The assets to be manipulated in order to solve the puzzles

- Game tech (stopwatch, website, app, projector, UV lights, fog machine, loudspeaker, camera, monitor)

- Lock boxes, containers, vials, envelopes, drawers

- Locks, zip ties, chains, ropes, padlocks, hasps

- Narrative elements (video, audio, printed documents, pictures on the wall)

- Soundtrack

- Props that embody the theme or setting

- Host and actors

HINT SYSTEM

- Provide incremental help to players when they are stuck or frustrated

- How will the players receive hints?
  - Personally
    - TV screen
    - PA system
    - Companion website or app
    - Written notes in envelopes
    - Actor
  - Pre-set hints

- Hint rules
  - Time penalty for using hints
  - Hint button with cooldown timer

SCORING SYSTEM

- You can award a final score based on:
  - if players were able to escape
  - the time needed to escape from the room
  - number of hints or clues used to solve the puzzles
  - number of puzzles solved
- Consequences for errors made?
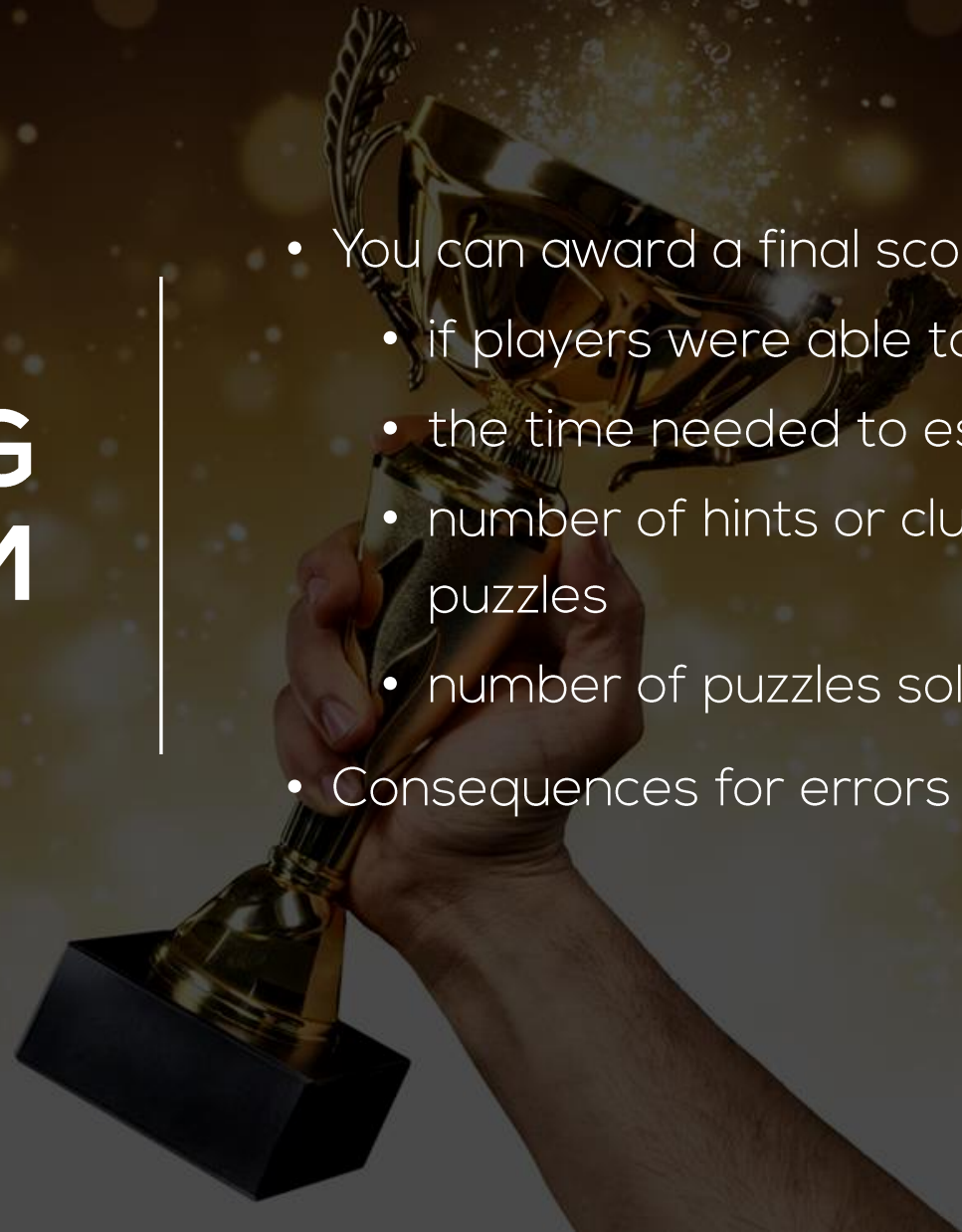
SAMPLE CHATGPT PROMPTS

- "Act as a [role]"

- "Create a puzzle that aligns with the theme of the Bauhaus art school and its impact on art and architecture, using elements of the room layout and game assets."

- "Create a hint system for the puzzle that involves decoding a message hidden within a painting."

- "Create a game flow for the educational escape room that aligns with the problem statement and learning objectives."

GAME MASTER

- Briefs and debriefs the players

- Explains game rules

- Ensures that players have a good experience

- Provides reminders and updates to the group as they play the game

- Mediates player disputes as they arise

- Answers players questions thoroughly

- Resets rooms after completion

- Can be an NPC in the game

BRIEFING

- Prologue – setting the scenario
  - Pre-written script
  - Video
- 5-10 minutes
- Informs players about:
  - Rules
  - Backstory
  - Mission

SAMPLE CHATGPT PROMPTS

- "Act as a [role]"

- "Write a script for a briefing video, which provides players with a clear understanding of the game's backstory, objectives, and rules, while also immersing them in the experience and motivating them to complete the game by highlighting the stakes and rewards of success."

- "Create a detailed set of written or verbal instructions for the players to follow during the educational escape room, including information on how to navigate the room, solve puzzles, and access hints and clues."

DEBRIEFING

- 5-15 minutes

- Outro video to conclude the story

- Discussion of the puzzles, content course knowledge, and skills needed to solve them

- Feedback on students' performance

- Players' reflection on their game experience helps to solidify the learning outcomes

- Opportunity to reinforce the learning activity and cover all learning outcomes (e.g., revision booklet)

PLUS/DELTA MODEL

Plus (what worked well)

- What did you enjoy most about the escape room experience?
- Which puzzles or challenges did you find most engaging and why?
- What did you learn about the game's topic that you did not know before?

Delta (what could be improved)

- What could have been done differently to make the escape room experience more engaging or educational?
- Which puzzles or challenges did you find most difficult or confusing and why?
- What would you suggest to improve teamwork or communication?

GROUP PHOTO

- A group photo is arguably the only shareable thing about an escape room

- Acts as both souvenir for the player and marketing tool

- Most players consider them an important part of the overall experience

- Give players props that fit your room's theme

- Optimise your escape room photos for social media

SAMPLE CHATGPT PROMPTS

- "Act as a [role]"

- "Write the script for an outro video, which summarises the key learning objectives and provides players with a sense of accomplishment and closure."

- "Write a debriefing guide that includes discussion prompts and reflection questions to help players reflect on their experiences and the learning objectives achieved during the educational escape room."

- "Write the script for facilitating the debriefing session."

PROTOTYPE

- Fail fast, fail cheap

- Produce lo-fi prototype
  - Have participants with similar skill sets to the intended learners playtest it
  - Solve any problems that came up during testing
  - Use as few resources as possible in creating the early prototypes

- Produce hi-fi prototype

- Write guides
  - Facilitator guide - Information required to run the game
  - Setup and repack guide - Instructions about setting up / resetting the game

PLAYTEST

- Test individual puzzles, debriefing structure, paper prototypes and the full game at different stages

- Each playtest should address issues about:
  - realistic playtime
  - difficulty level
  - puzzle mechanics
  - relevance to learning objectives
  - quality of hints
  - cohesive narrative

SAMPLE CHATGPT PROMPTS

"Act as a [role]"

"Write 10 open-ended questions to measure the effectiveness of the educational escape room in achieving its learning objectives."

"Write a detailed testing plan that outlines the steps to be taken during the prototyping and testing phase of the educational escape room."

"Write a facilitator guide for the escape room."

"Write a list of setup and reset instructions for the escape room facilitator."

EVALUATION

- Did the room meet its goals, objectives, and learning outcomes?

- What aspects of the room contributed to or detracted from this?

- How can the learning experience be improved?

EVALUATION METHODS

- Playtesting

- Pre- / post- / delayed-post test to check for knowledge retention

- Pre-post survey

- Interviews

- Focus groups

- Observation (in situ / video surveillance)

SAMPLE CHATGPT PROMPTS

"Act as a [role]"

"Write a list of 10 quantitative and 10 qualitative survey questions that can be given to students after they complete the educational escape room to measure the effectiveness of the escape room in terms of the learning objectives and outcomes."

"Write a script for a semi-structured interview that will be conducted with the students after they complete the educational escape room to measure the effectiveness of the escape room in terms of the learning objectives and outcomes."

TOOLS

- **Google Forms**
- **Telescape Live**
- **Twine**
- **Genial.ly**
- **Breakout EDU**
- **Room Escape Maker**
- **H5P**
- ChatGPT
- Midjourney
- **Futurepedia**
- **https://wke.lt/w/s/77EGS4**
- **https://wke.lt/w/s/5q6_uq**

FREE EDUCATIONAL ESCAPE ROOMS

- Reading comprehension skills are reinforced in **Escape the Mummy's Tomb**

- English skills practice in **English Teacher Takeover**

- Figurative Language skills practice in **Figurative Riddles**

- World War 2 events practice in **Operation Bletchley 1945**

- Turn any worksheet into an Escape Room with **Google Forms**

- Crush educational boredom with help from **LockPaperScissors**

GAMES TO INSPIRE YOU

- **Escape Academy**
- **Escape Simulator**
- **The Black Watchmen**
- **Ahnayro: The Dream World**
- **NITE Team 4 – Military Hacking Division**
- **The Initiate**
- **Cube Escape: Paradox**
- **We Were Here**
- **Keep Talking And Nobody Explodes**

MOVIES TO INSPIRE YOU

- Escape Room: Tournament of Champions (2021)
- Escape Room (2019)
- Jumanji: Welcome to the Jungle (2017)
- Split (2016)
- The Maze Runner (2014)
- Saw (2004)
- Panic Room (2002)
- The Thirteenth Floor (1999)
- Cube (1997)
- Jumanji (1995)
- The Shawshank Redemption (1994)
- Hellraiser (1987)
- Victory (1981)
- The Great Escape (1963)

FURTHER READING

- Fotaris, P., & Mastoras, T. (2022). **Room2Educ8: A Framework for Creating Educational Escape Rooms based on Design Thinking Principles,** *Education Sciences, 12, 768.* DOI:

- Fotaris, P. & Mastoras, T. (2019). **Escape rooms for learning: A systematic review,** Proceedings of the 12th European Conference on Games Based Learning (ECGBL 2019), pp. 235-243.

- Morris, J. (2020). **Escape Rooms in Education: A Practical Guide.** Amazon.

- Lyman, P.E. (2021). **The Do-It-Yourself Escape Room Book,** Skyhorse Publishing.

- Nicholson, S. & Cable, L. (2021). **Unlocking the potential of puzzle-based learning.** Corwin.

- Kroski, E. (2018). **Escape Rooms and Other Immersive Experiences in the Library.** ALA Editions.

- Chassapakis, D. (2017) **Journal 29: Interactive Book Game.** Primedia eLaunch LLC.

- Gillies, R. (2021). **Extraordinary Investigations: The Midas Project: A Puzzle Novel.**

WATCH

- Students designing a breakout EDU game (3:19)

- **https://www.youtube.com/watch?v=_fSdiKin5q0**

"I've learned that people
will forget what you said,
people will forget what you did,
but people will never forget
how you made them feel."

– Maya Angelou

Get in touch

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