Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Yr Athrofa
Institute of Education
Addysg i Gymru / Education for Wales

Developing creative problem solvers through escape room learning:

ECAD6015



HELLO

I KNOW WHAT YOU'RE THINKING?

WHERE ON EARTH HAS THIS BLOKE BEEN?





Reminder...

Our Curriculum
Ambitious, Capable Learners
Enterprising, Creative Contributors
Ethical, Informed Citizens
Healthy, Confident Individuals
ASPIRATIONS - WELL ROUNDED ADULTS - COMMON MISSION - LIFE-LONG LEARNING - HIGH NATIONAL

What might some characteristics be of a creative child?

From Brolin's creativity research, the creative person can, it seems, be described as having the following characteristics (Brolin, 1992):

Strong motivation

Strong sense of self

curiosity

Endurance

Deep commitment

Strong desire for self realisation

High sensitivity

Independence in thought and action

Openness to impressions from within and without

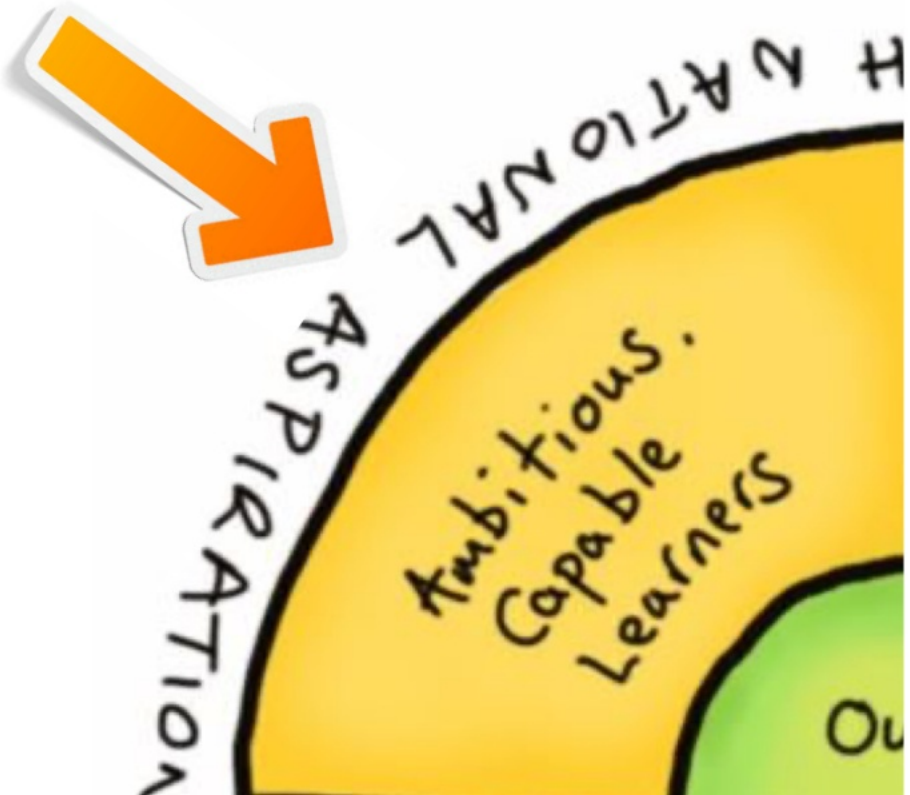
High capacity for emotional involvement in their investigations.

Attracted to complexity and obscurity





So What should a learner actually be able to DO within this purpose?

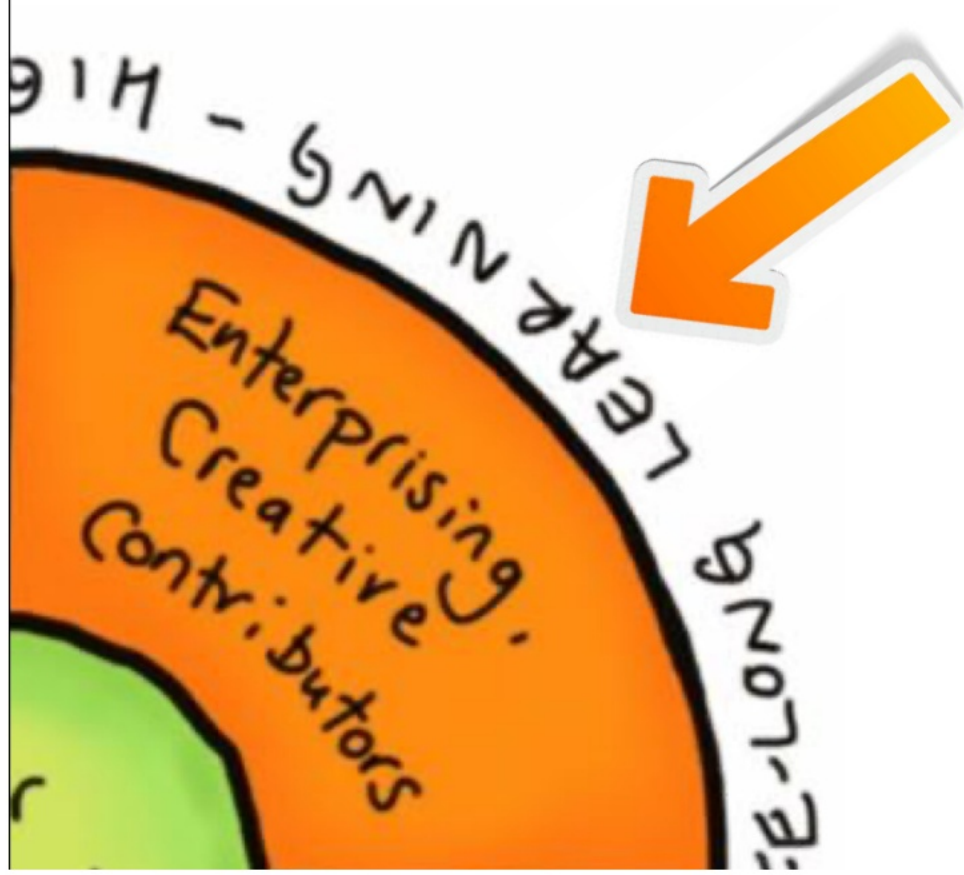


Ambitious, capable learners who:

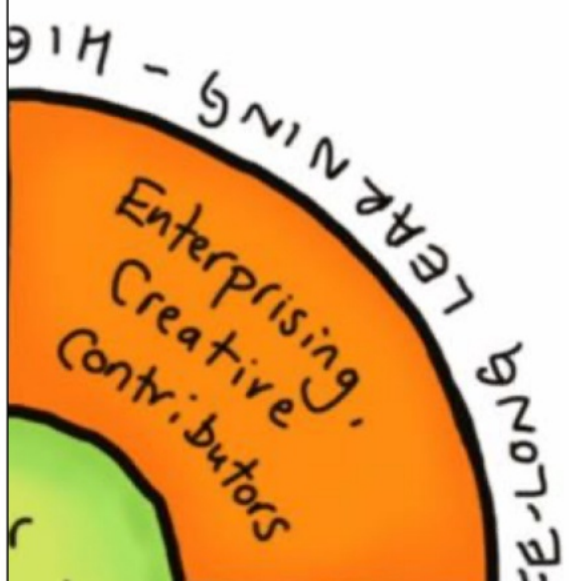
- set themselves high standards and seek and enjoy challenge
- are building up a body of knowledge and have the skills to connect and apply that knowledge in different contexts
- are questioning and enjoy solving problems
- can communicate effectively in different forms and settings, using both Welsh and English
- can explain the ideas and concepts they are learning about
- can use number effectively in different contexts
- understand how to interpret data and apply mathematical concepts
- use digital technologies creatively to communicate, find and analyse information
- undertake research and evaluate critically what they find

and **are ready to learn throughout their lives**





So What should a learner actually be able to DO within this purpose?



Enterprising, creative contributors who:

- connect and apply their knowledge and skills to create ideas and products
- think creatively to reframe and solve problems
- identify and grasp opportunities
- take measured risks
- lead and play different roles in teams effectively and responsibly
- express ideas and emotions through different media
- give of their energy and skills so that other people will benefit

are ready to play a full part in life and work

Stare at this dot
until you get an idea



Escape Room
Learning




Spin
Box

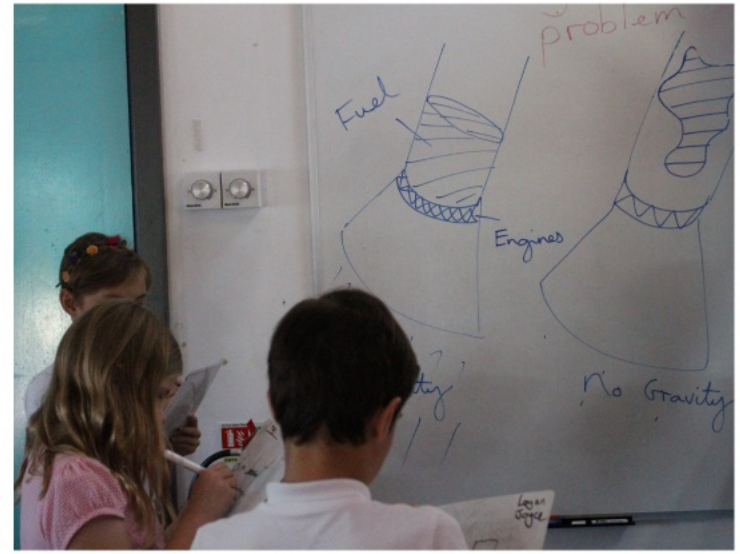

Maths
Area
Times Tables


ACKERMAN








Problem
Fuel
Engines
No Gravity


Literacy Wall
when?
where?
which?
how?












ZL50
5301


ZL50
5301


ZL50
5301

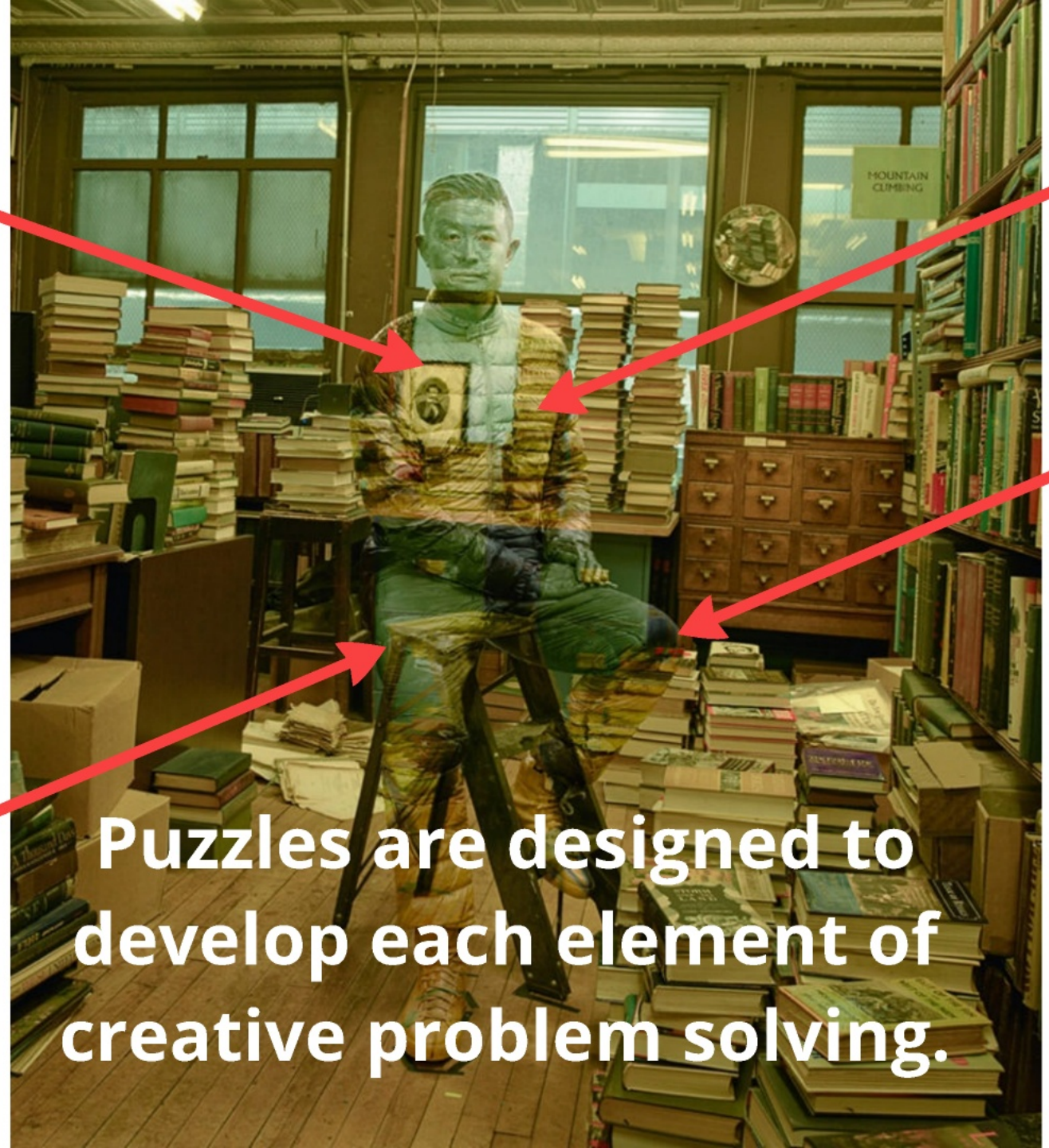

SO IF LOU REPRESENTS CREATIVE PROBLEM SOLVING AND THE LIBRARY IS AN ESCAPE ROOM...
MOUNTAIN CLIMBING
LOOK AT ALL THE ELEMENTS HE HAD TO CONSIDER...

Divergent thinking

Convergent thinking

Risk taking

Overcoming functional fixedness



Challenging assumptions

Curiosity

Combinatory play

Change perspective

Puzzles are designed to develop each element of creative problem solving.

The sorites paradox

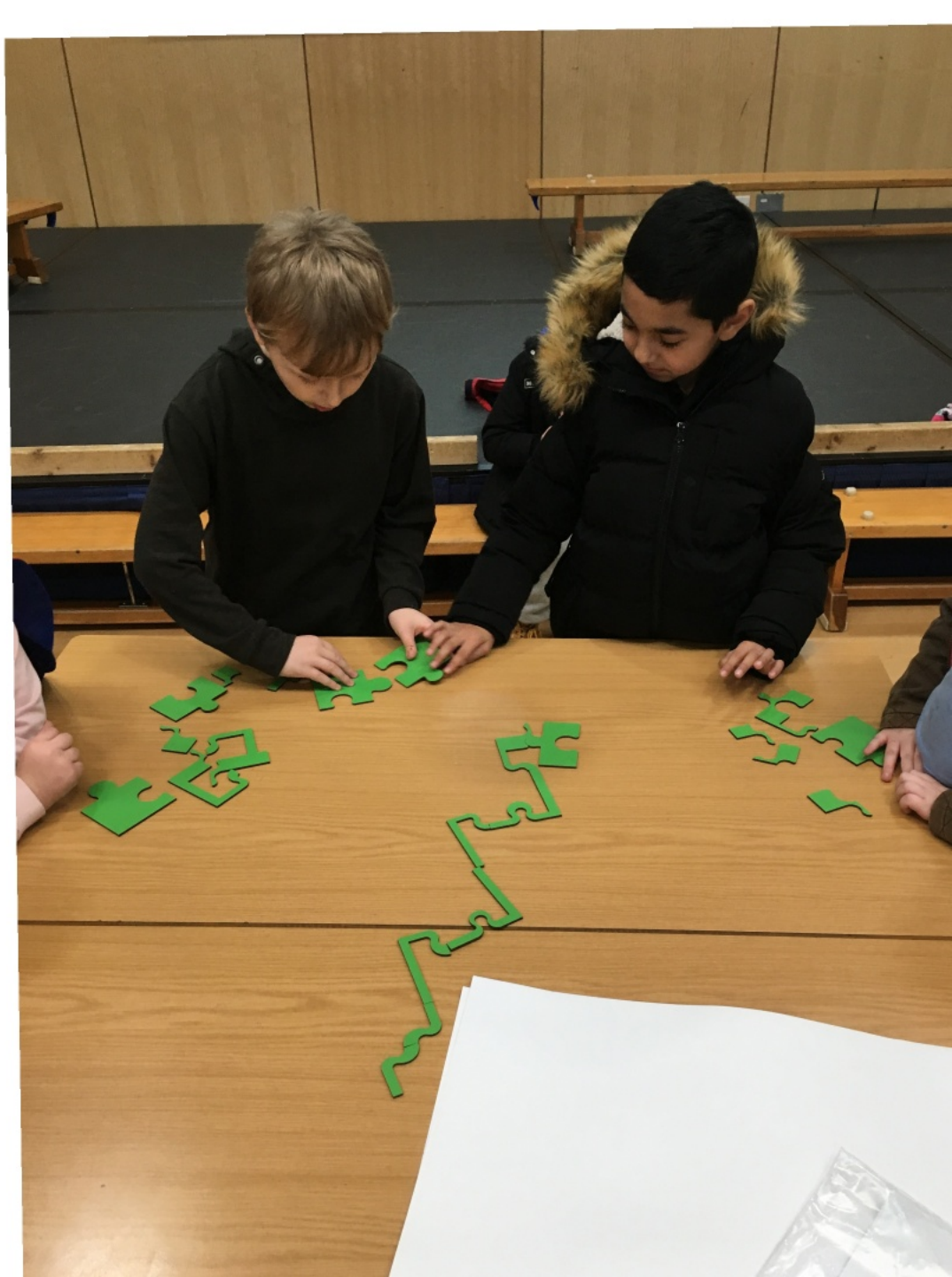


SO, SHALL WE GO AND PLAY ...



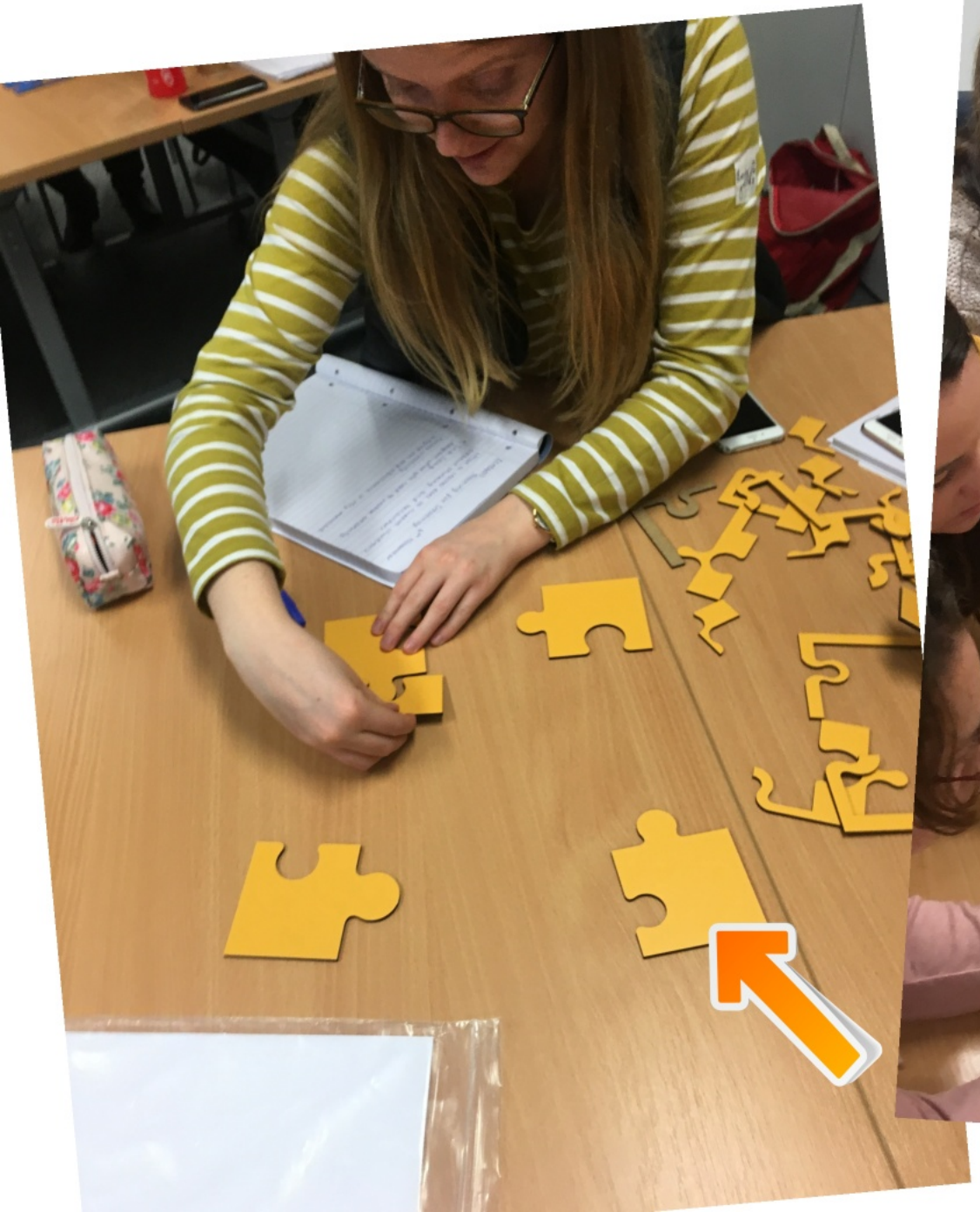

ENERVIT
ENERVIT

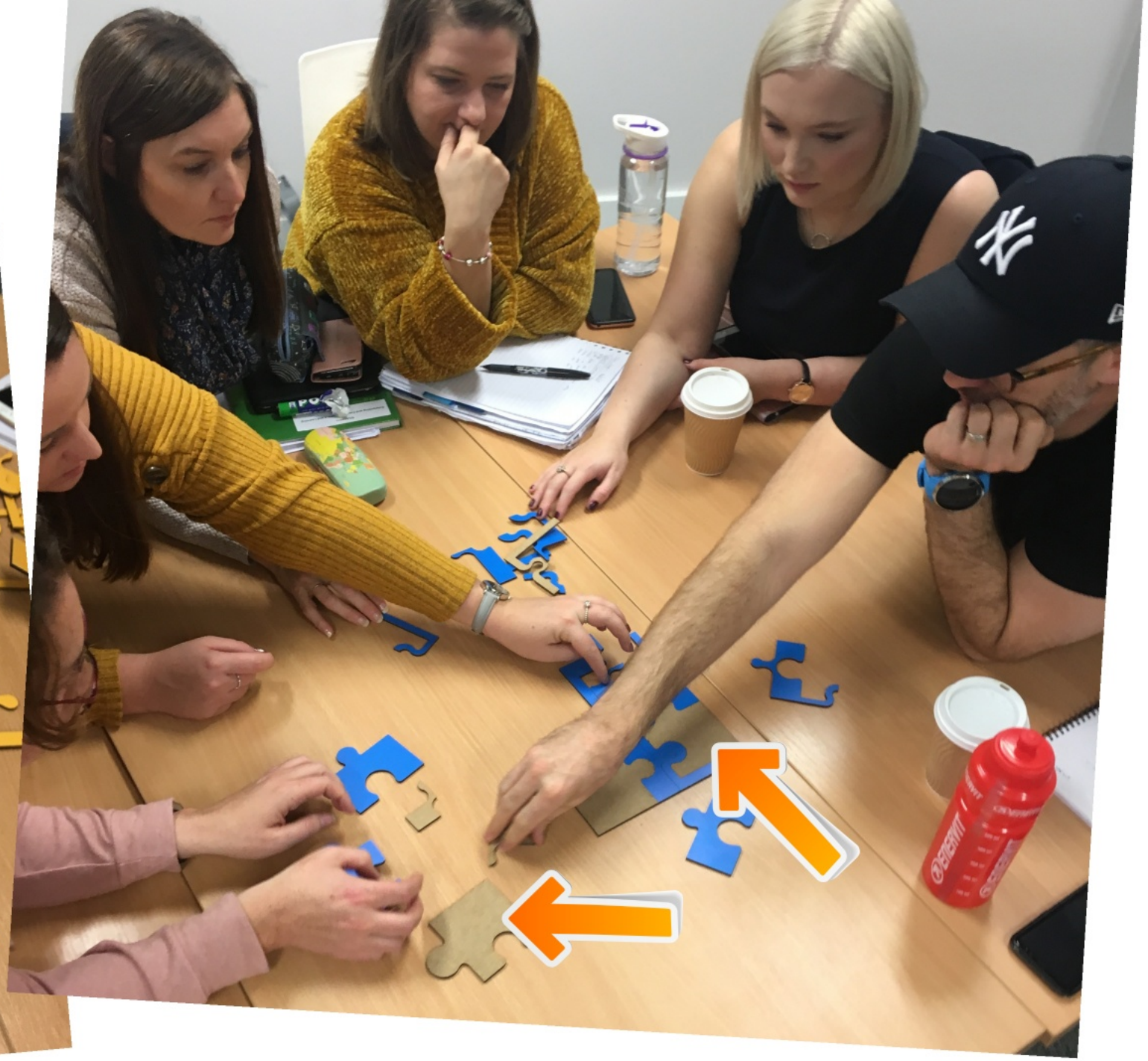

ENERVIT
ENERVIT














Master


Master




COMMANDE
W I
P L
8 8


COMMANDER
W L
E L


COMMANDER
W I
P L
8 8


W I
P L
8 8


WILLE
REGD. 1148555

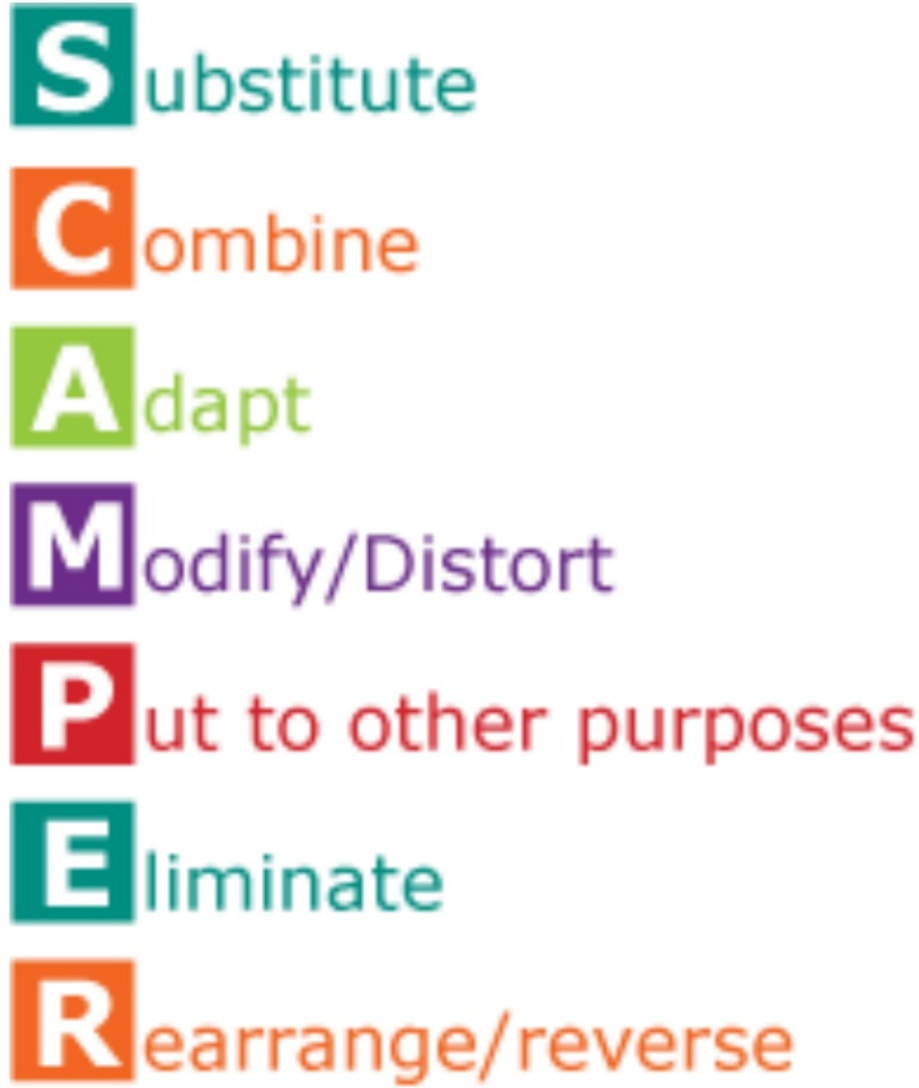
Walkthrough a team escape room





What if?





It's more accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle

Divergent Thinking

Substitute

Combine

Adapt

Modify/Distort

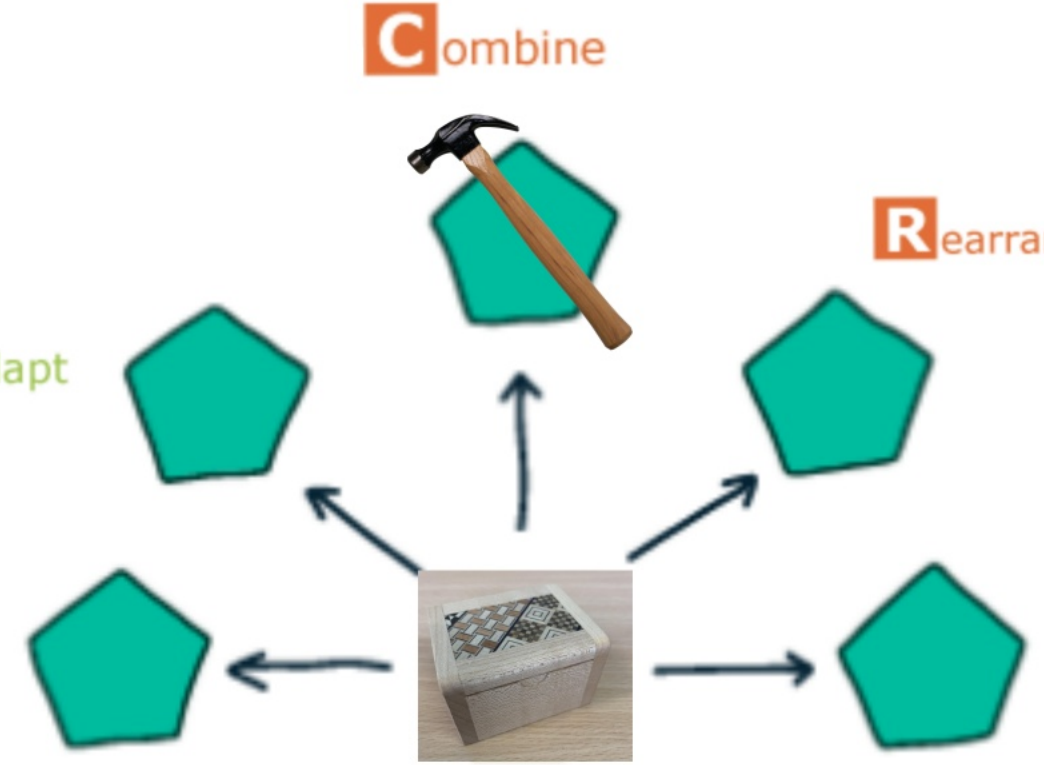
Put to other purposes

Eliminate

Rearrange/reverse

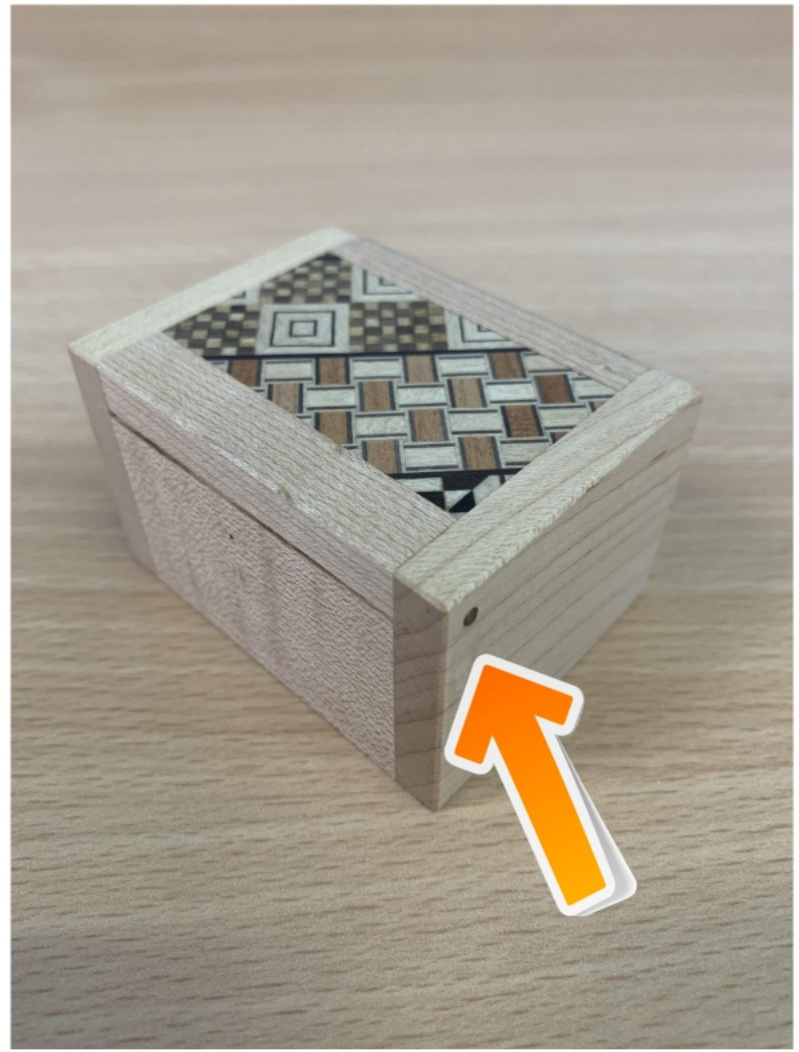


Start with a prompt.



Generate many solutions.







Rearrange/reverse

Substitute

Combine

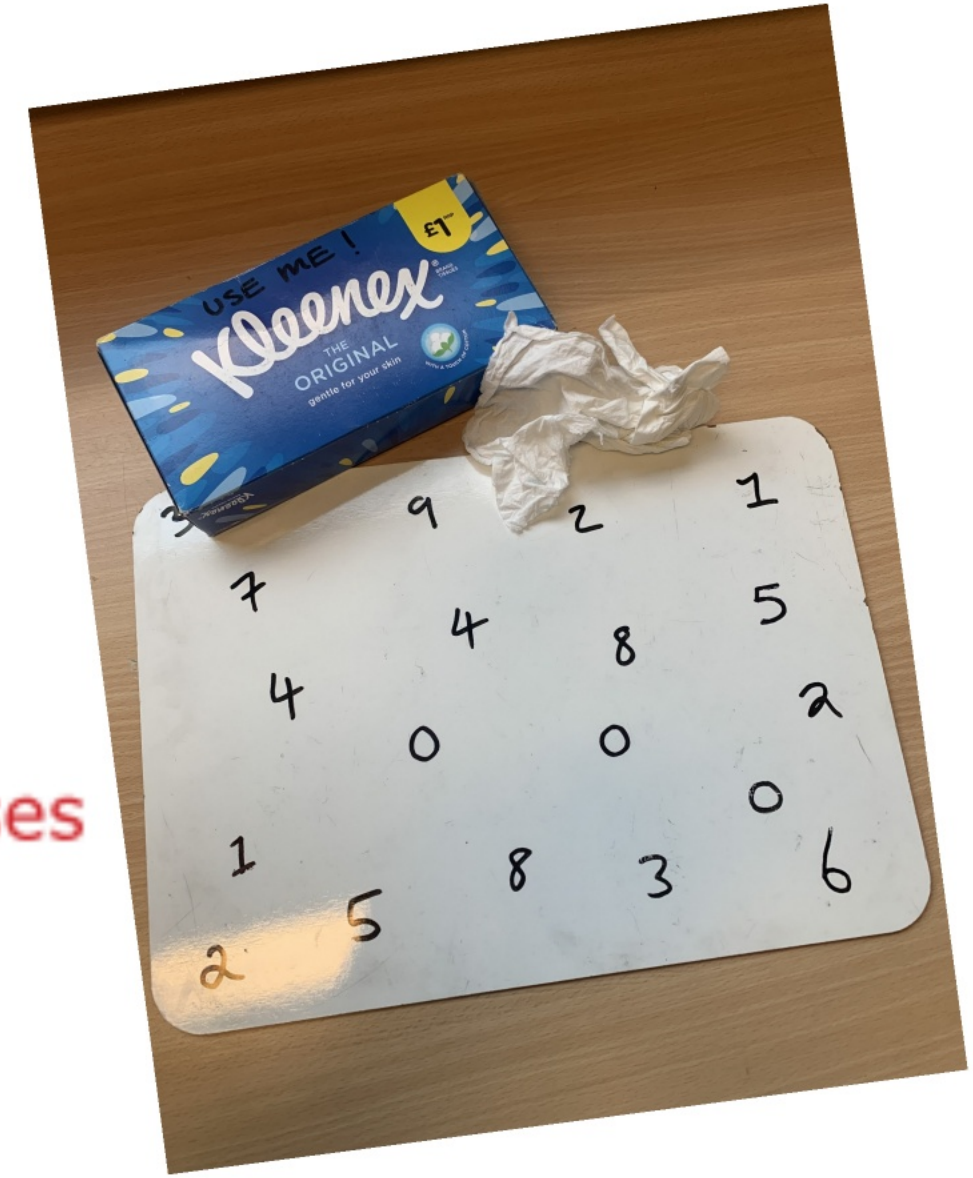
Adapt

Modify/Distort

Put to other purposes

Eliminate

Rearrange/reverse



Substitute

Combine

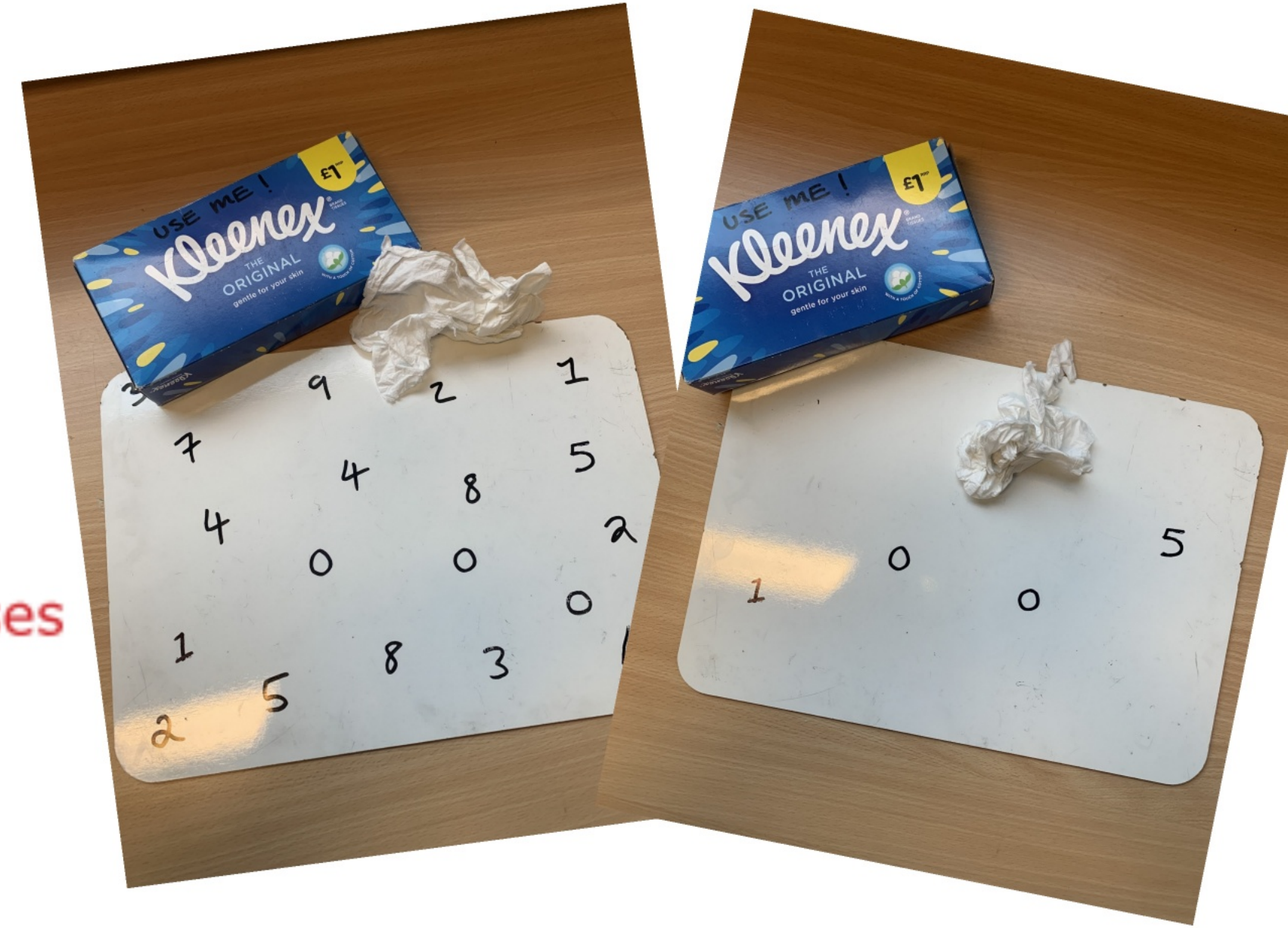
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Put to other purposes



Eliminate

Rearrange/reverse

OVERCOME OUR TENDENCY FOR ...

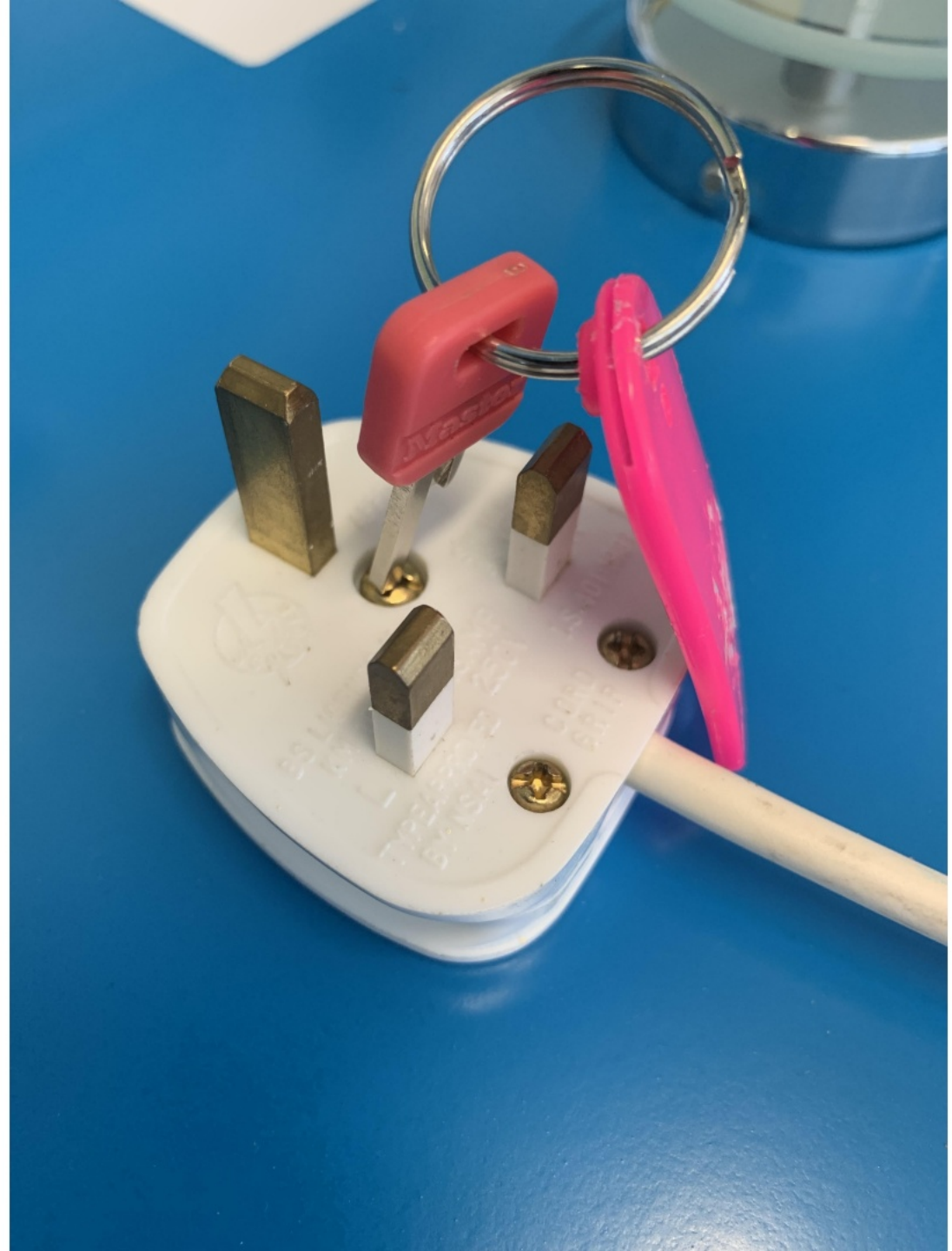
FUNCTIONAL FIXEDNESS

USING AN OBJECT IN
A NEW WAY TO SOLVE
A PROBLEM.




I can open
more than
locks!
Master






I can open more than locks!
Master







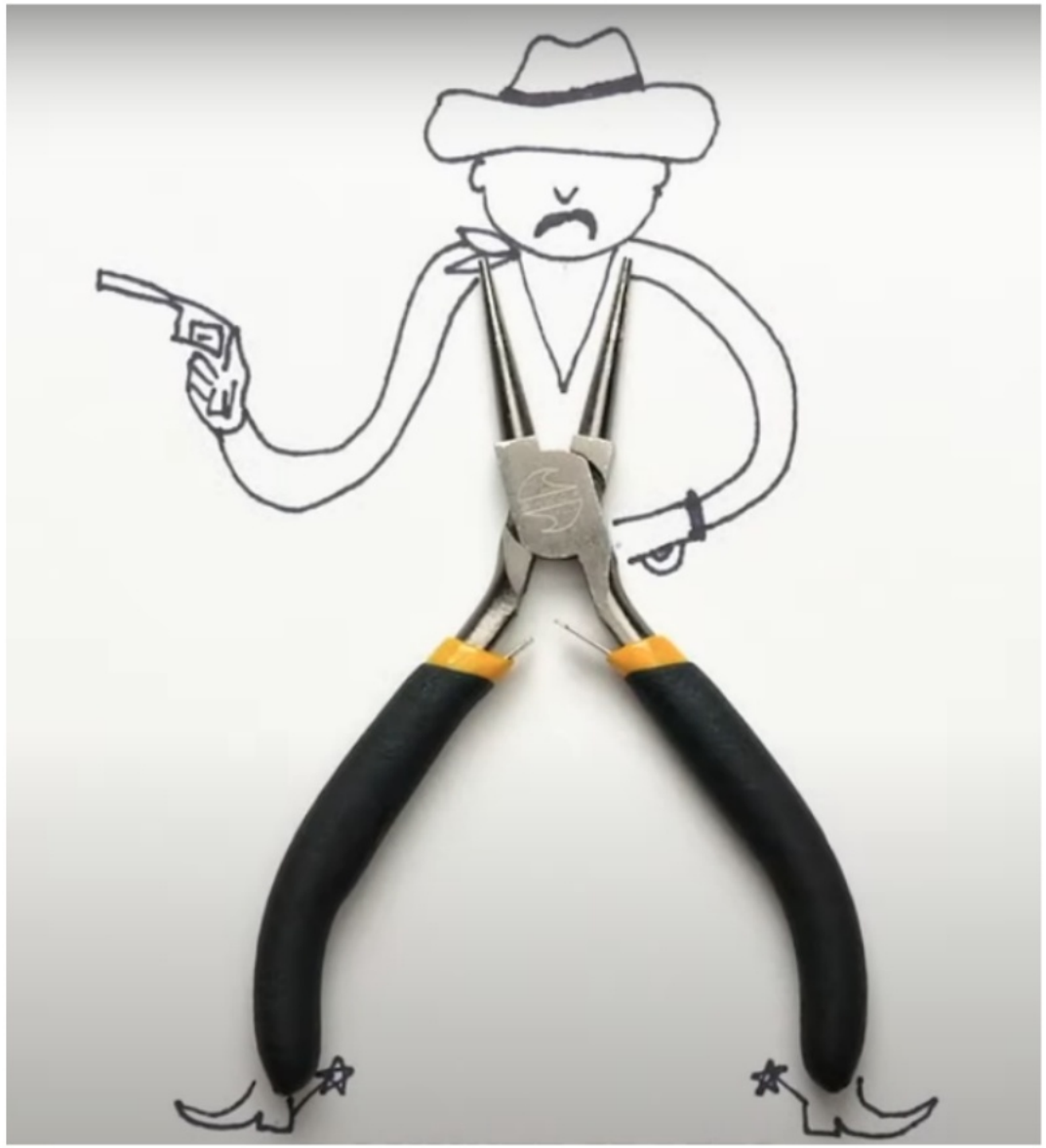


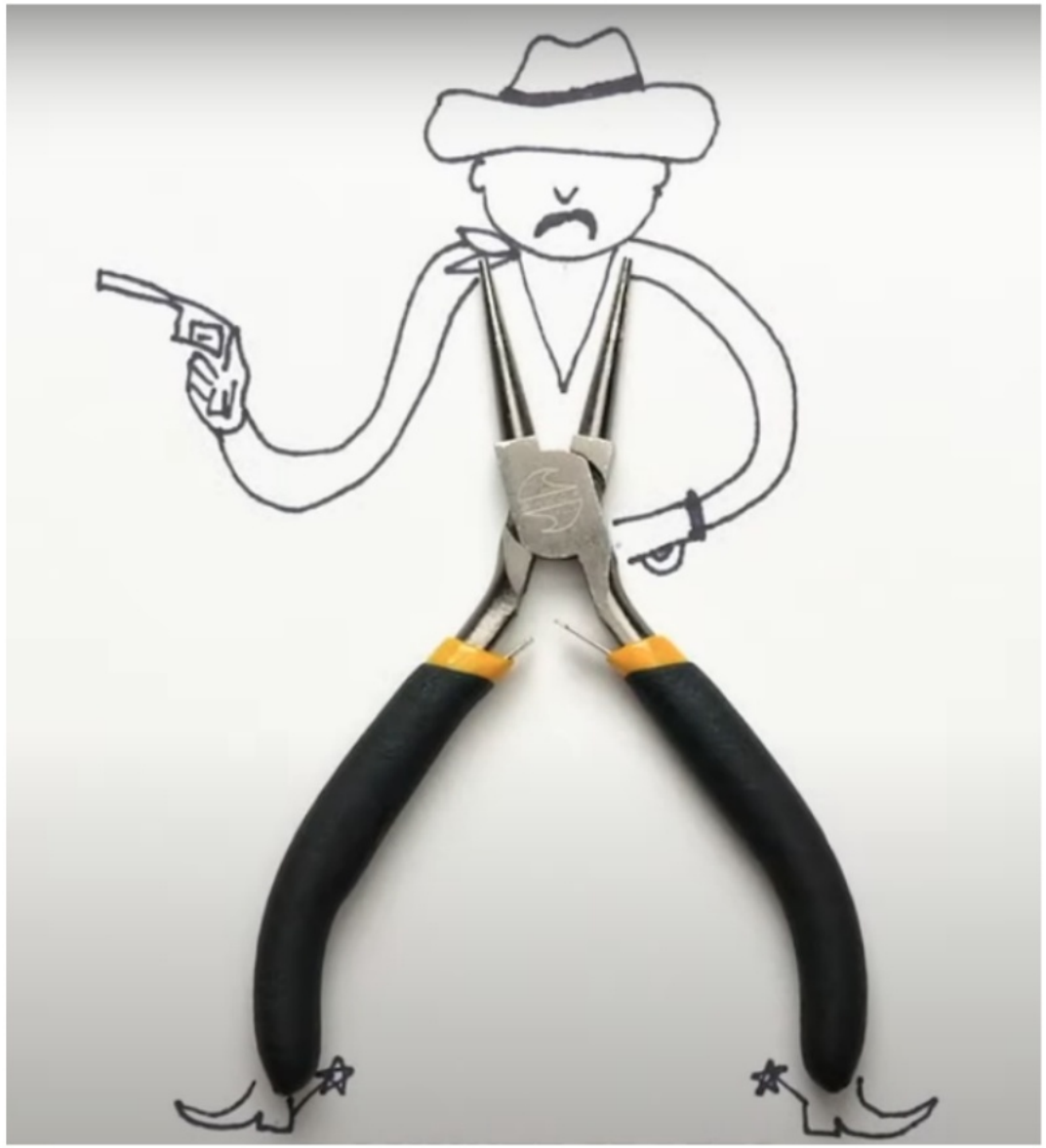








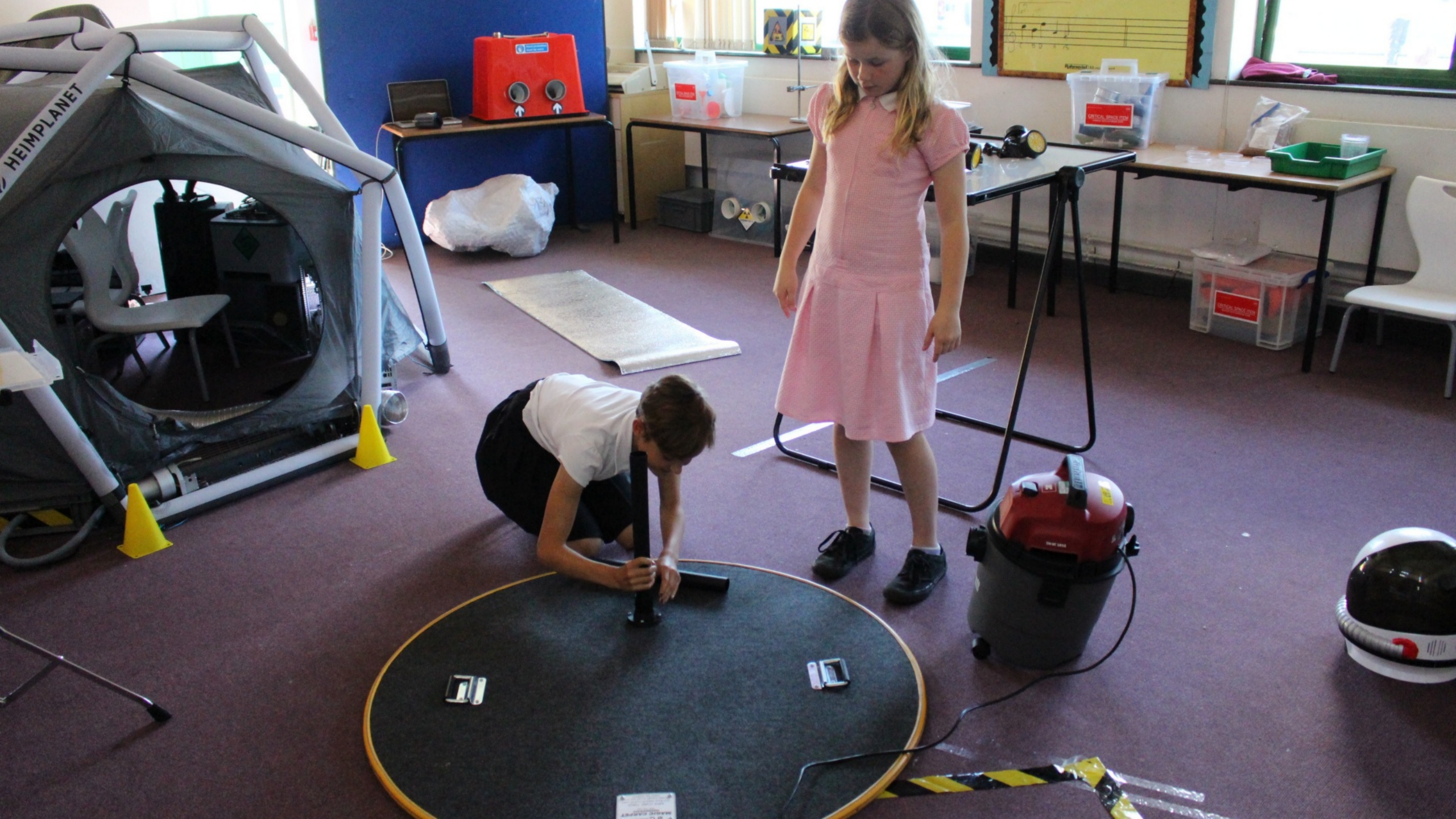


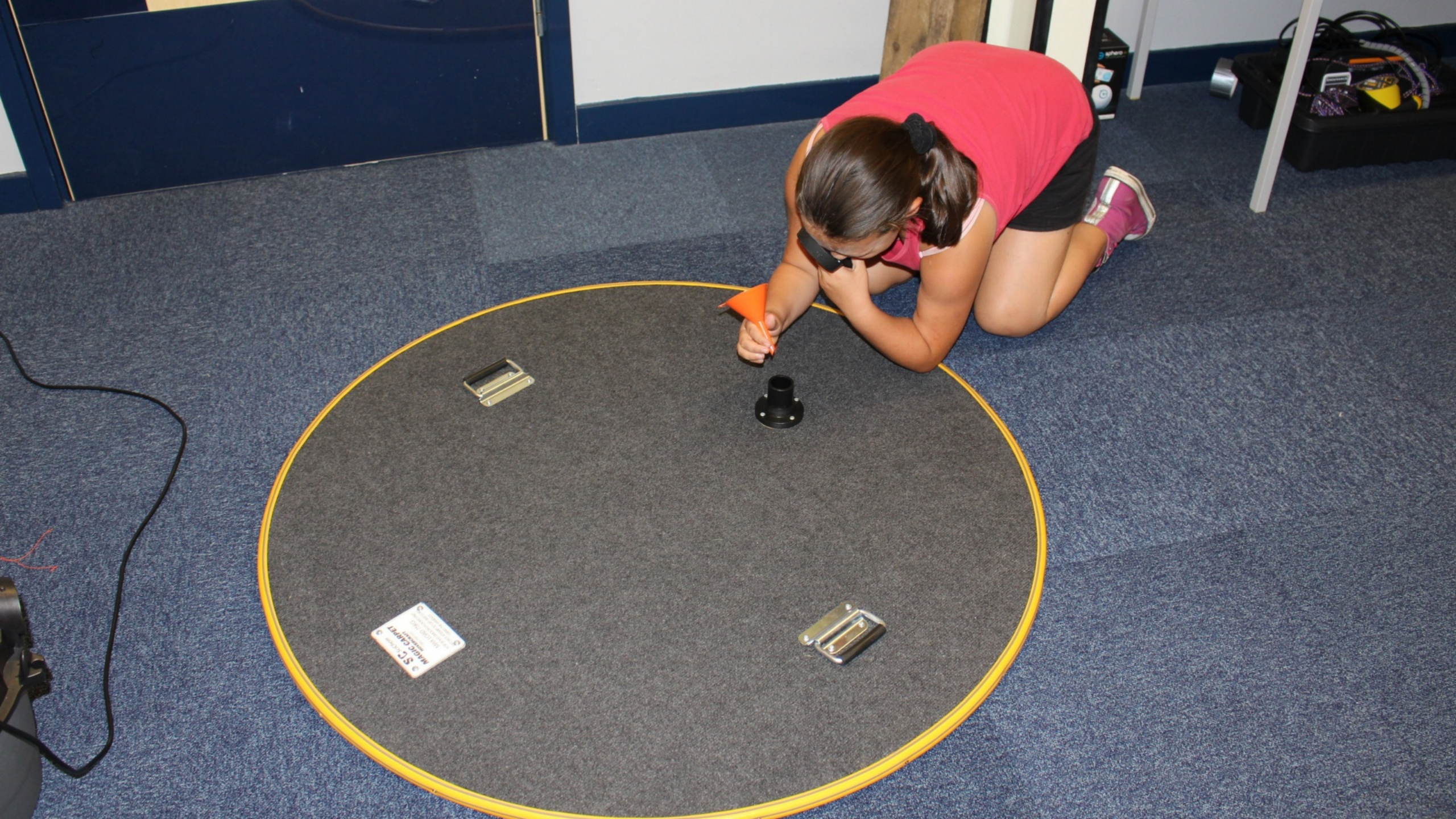



Master




EPIC VIBES
TODAY


HEIMPLANET




BIO
HAZARD







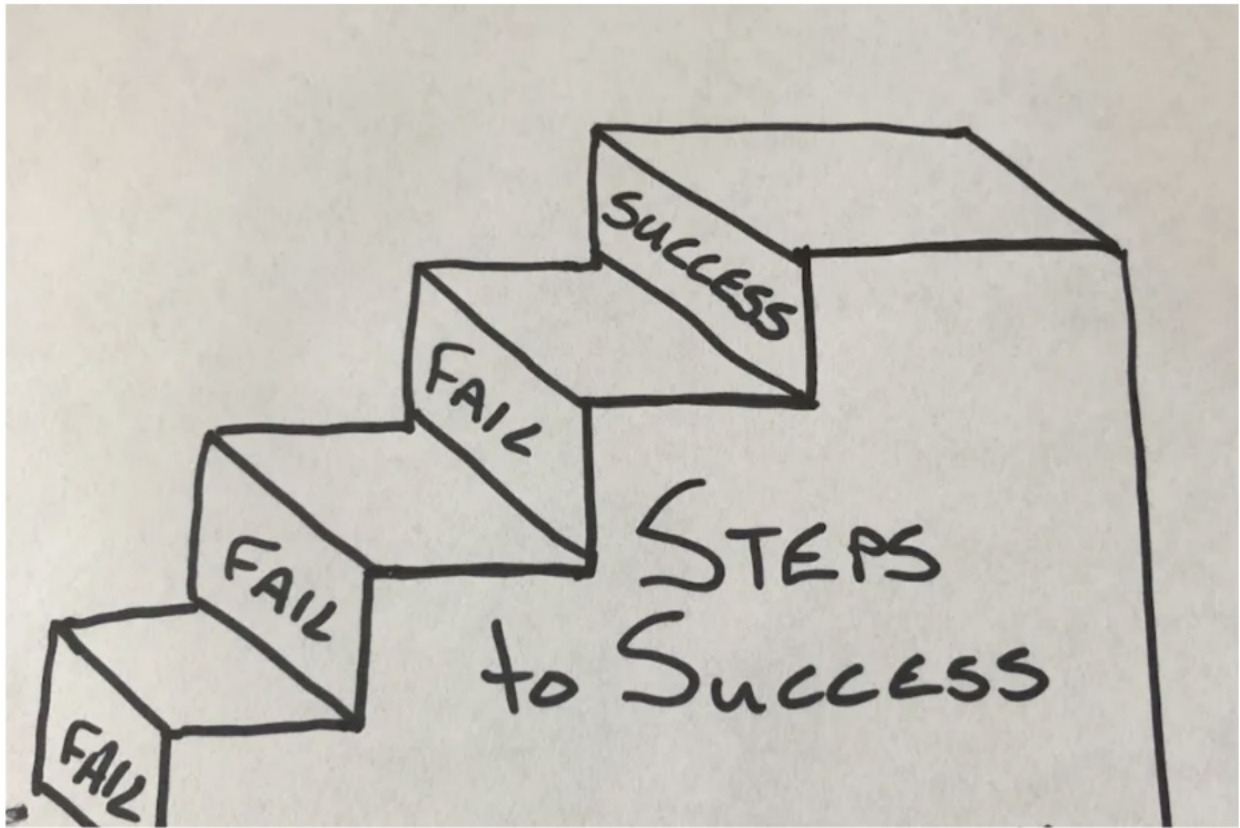


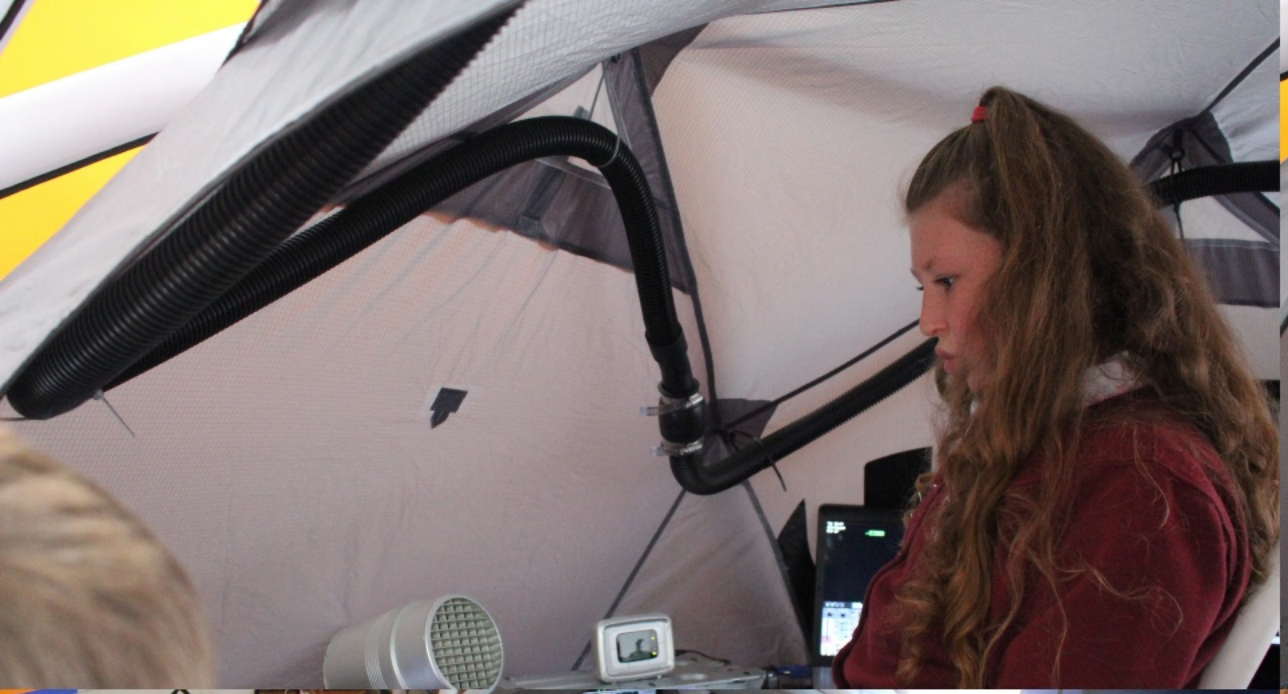


No accident!



Design experiences with both










NASA

Curiosity

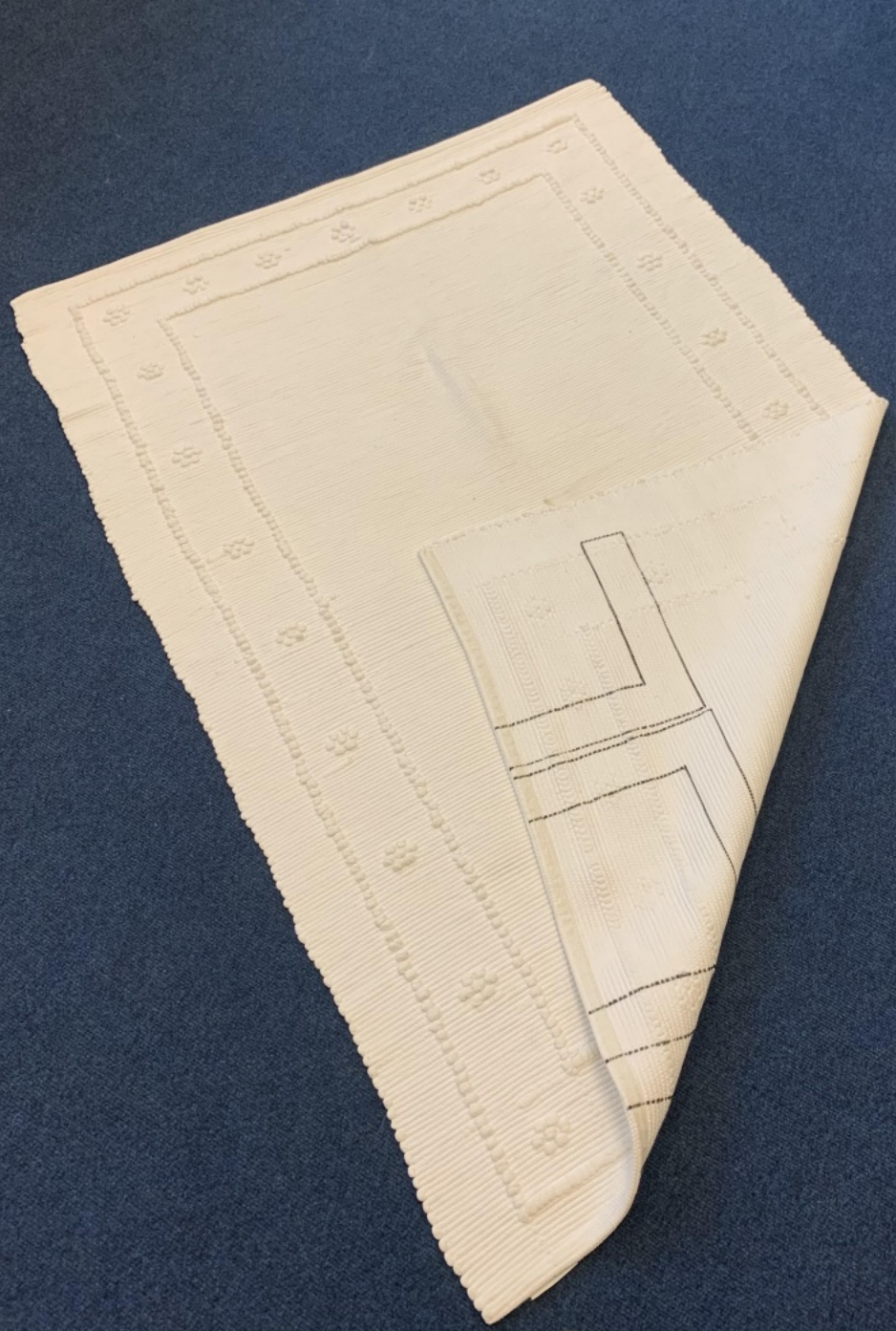


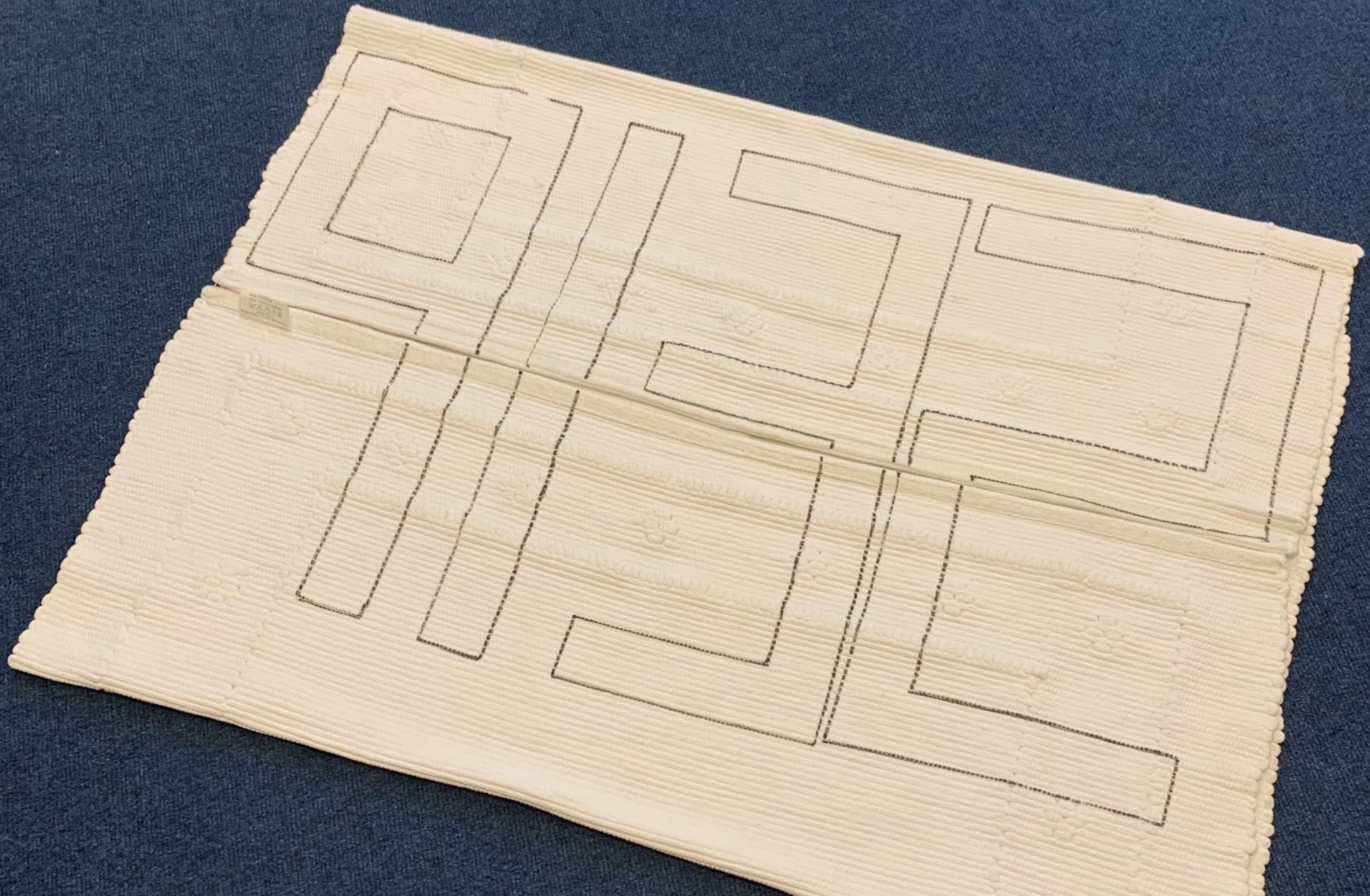


maXone









DURACELL
Panasonic
FOR LOW POWER PRODUCTS
alkaline C
extra long life
by Sainsbury's
LR14 - 1.5V


DURACELL


DURACE






042

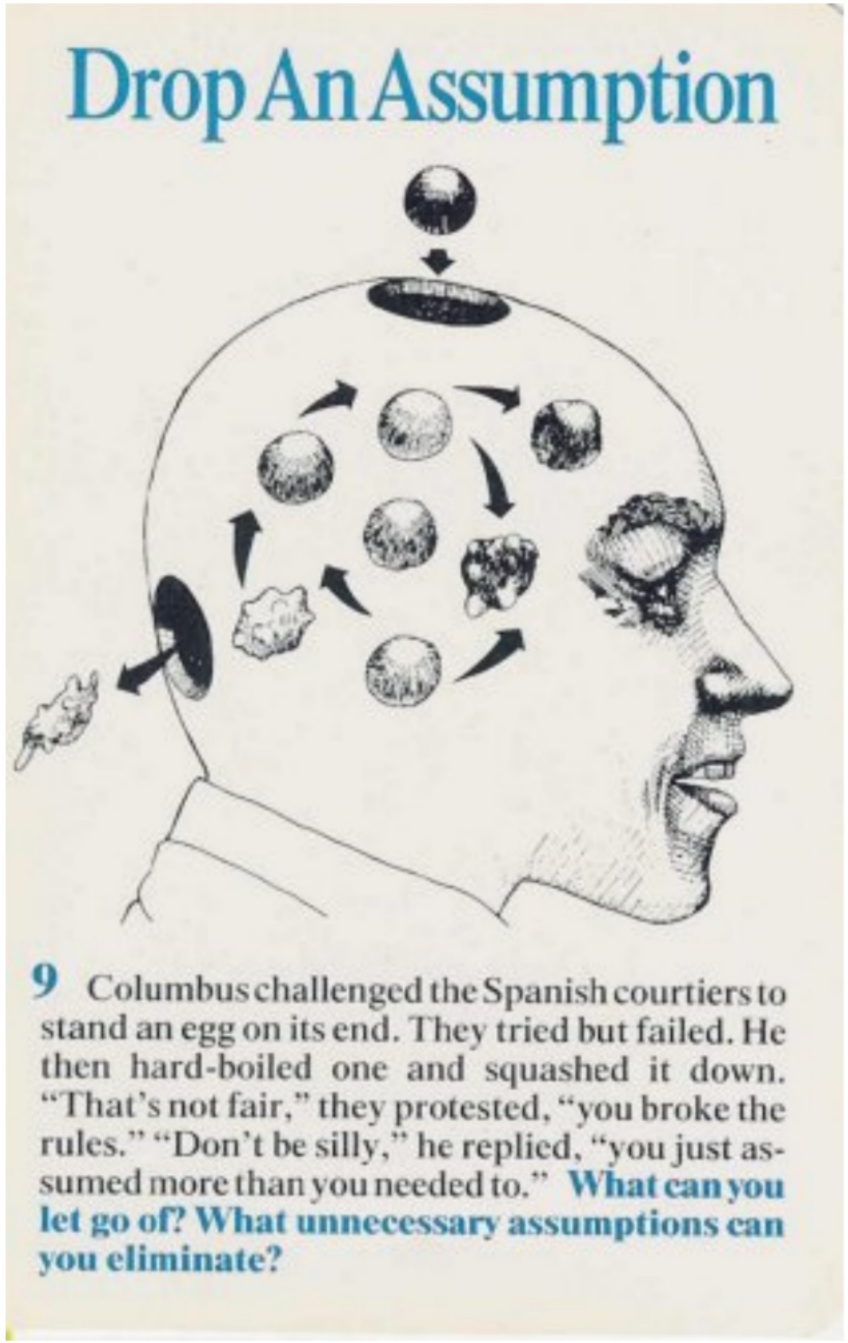






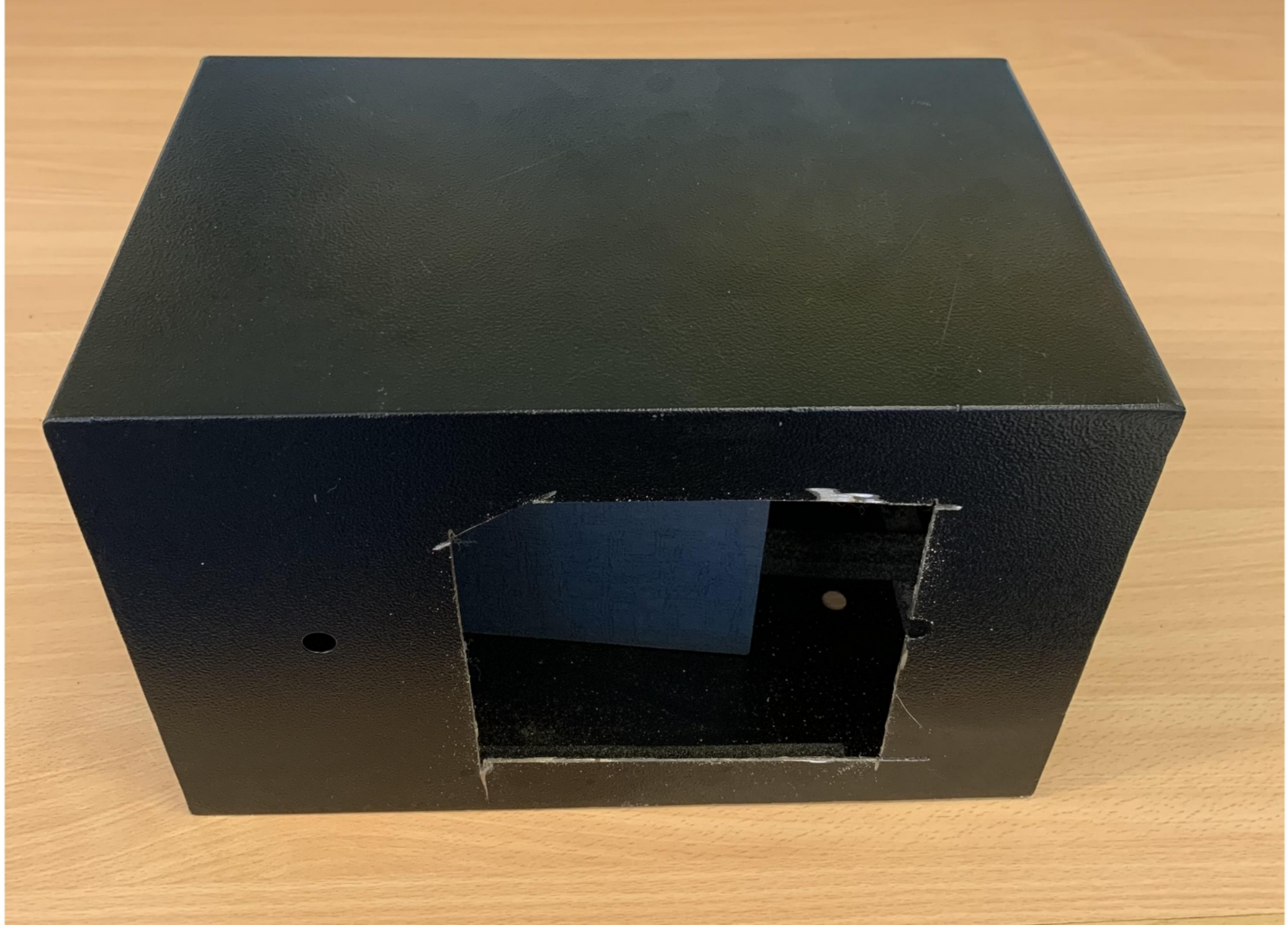



What do we need
to open this safe?
SIL
READY
LOW BATTERY
PROCEED



Design experiences where learners must challenge their assumptions!


What was the
assumption here?
SIL
READY
LOW BATTERY
PROCEED





I will develop creativity in my escape rooms by...

...including puzzles where learners must engage in DIVERGENT thinking...WHAT IF?

...including puzzles where learners must overcome their 'functional fixdness' and use objects in different ways!

...planning for learners to use their curiosity find things.

...making my learners challenge their assumptions.



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t.cox@uwtsd.ac.uk

WHAT DO YOU SEE?



WHAT DO YOU SEE?



"Discovery consists of looking at the same thing as everyone else and thinking something different." Von Oech (1983)




The change of perspective doesn't just have to be physical...change the perspective of your thinking.
"How would an insect solve this problem?"


001


68



update

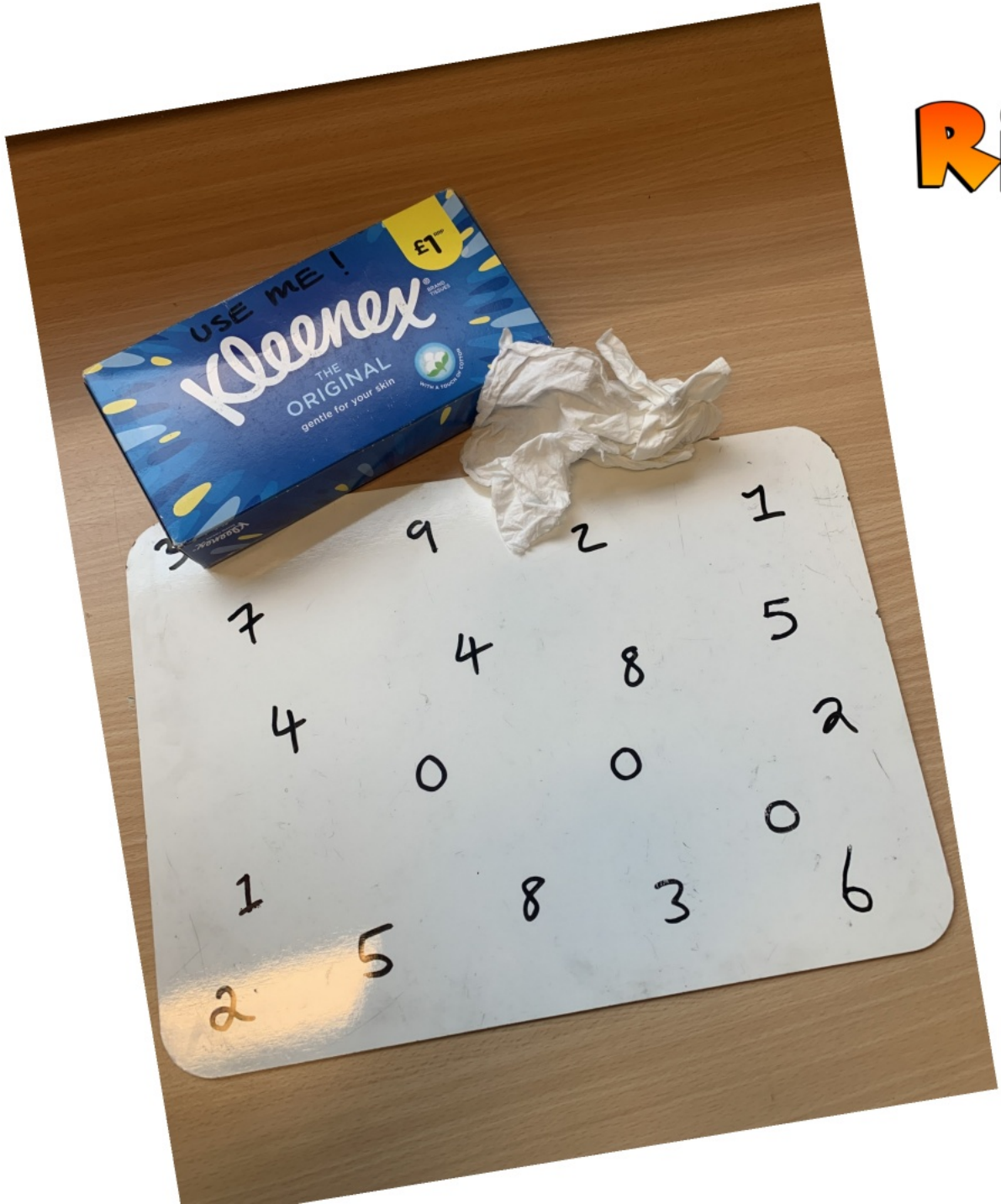
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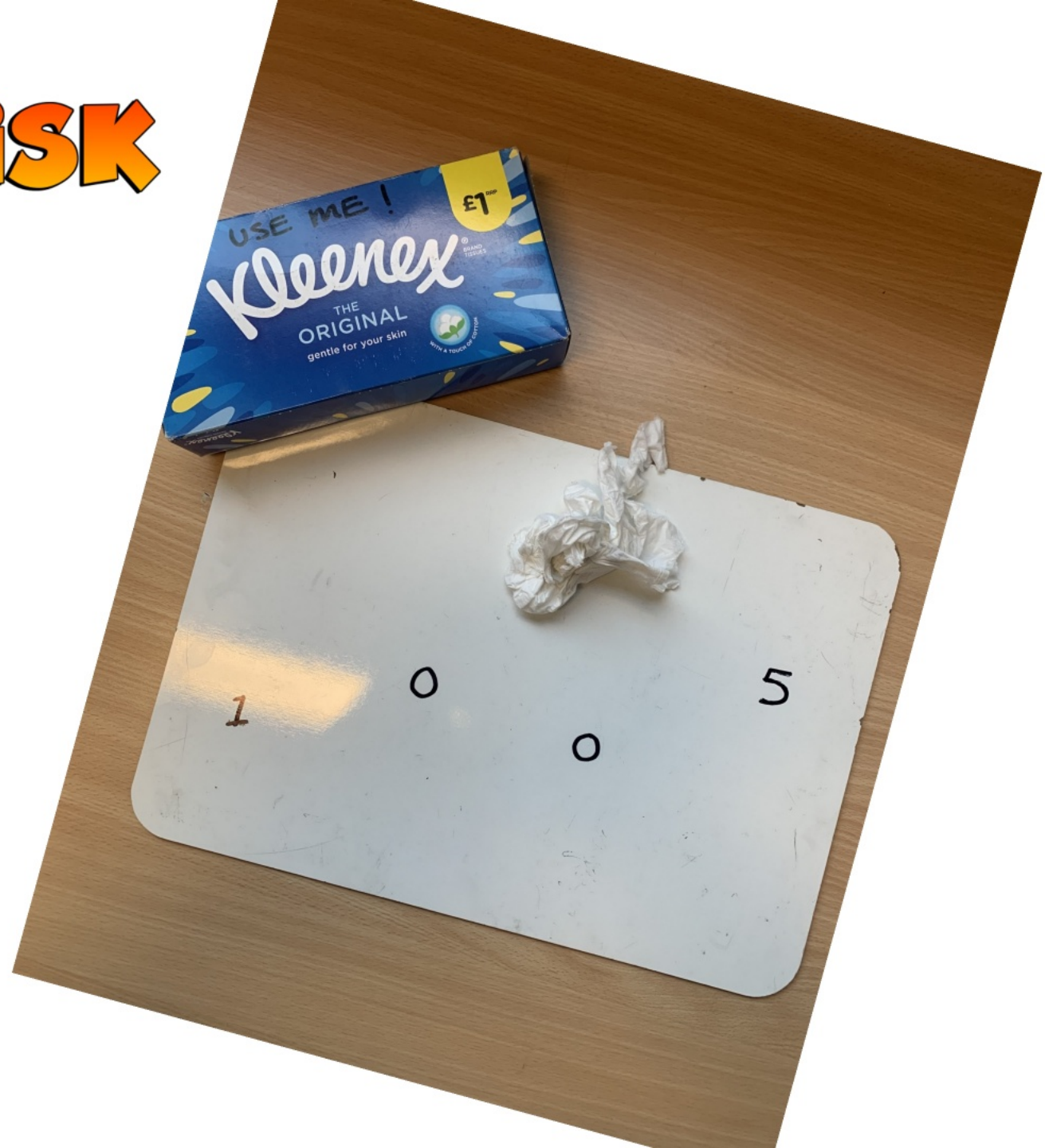
...planning for learners to use their curiosity find things.

...including puzzles where solutions are found by changing perspective...ll will make my learners look at things in a different way.

...making myy learners challenge their assumptions...I will try to trick them!

RISK


USE ME !
£1
Kleenex
THE ORIGINAL
gentle for your skin
9 2 1
7 4 5
4 8
4 2
0 0
0
1 8 3 6
2 5


USE ME !
£1
Kleenex
THE ORIGINAL
gentle for your skin
1 0 5
0





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Substitute

Combine

Adapt

Modify/Distort

Put to other purposes



Eliminate

Rearrange/reverse

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Modify/Distort

Put to other purposes



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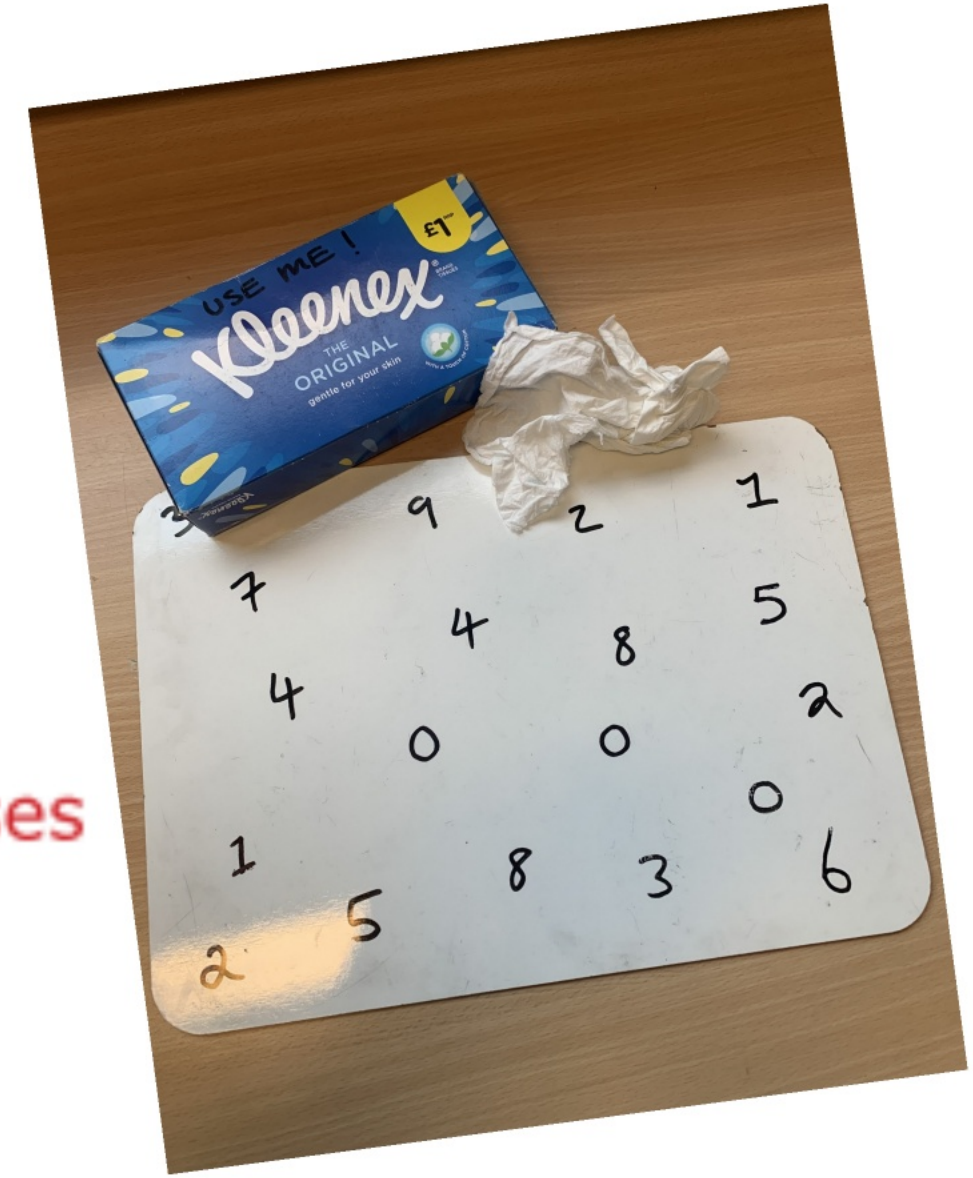
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