

MISD Energy:

Feel the power!

This Inventor's Log belongs to _____

Top tips to get inventing!



Follow that thought

Try to stop thinking for a minute. It's pretty much impossible!

Our brains are constantly taking information in and working out how to record it and how it connects with other things we know.

So trust your brain and try to catch a thought and see where it takes you!

So many ideas!

Keep the ideas coming. It doesn't matter if they're not great, but allowing yourself to play with an idea might lead you to another idea, or might just get it out of your brain to make room for more ideas!

No problem too small

It might be how to help a snail go faster, how to water a cactus or how to protect a ladybug from the rain – no problem is too small to capture your inventive imagination!

Who needs your help?

Thinking about who your invention is for is a great place to start.

It could be for someone in your family or an animal you spot while you're out and about. Imagine what they like or dislike, what they might find difficult or boring. How can you help them?

Doodle away

You don't always need to know what you're drawing....

In fact, some people like to doodle and then imagine what they can see in their doodle! Have a go on a doodle sheet!

No limits

And of course, the opposite is also true – there is no problem too big to have a go at either!

If you worry about how to reduce the pollution in the atmosphere or how to make travel faster, safer and non-polluting, then have a go. We need all kinds of ideas to help our planet stay green!

Break the rules

New inventions happen when we try to think or do things differently – in other words, when we break the rules. So forget how things are supposed to work and make them happen your own way!

What might seem impossible today could well happen in the not-so-distant future.



Part 1

Introduction to Inventing



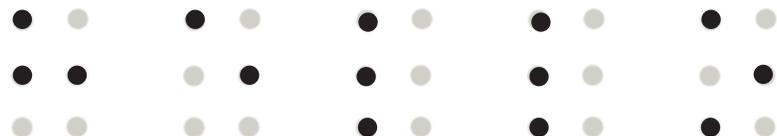
Braille investigator

What is braille?

Braille is a system of raised dots that blind people can read. Braille is read by touch, using your fingers to feel the letters and symbols.

The braille alphabet

Each letter of the alphabet, punctuation mark or number has its own special symbol or symbols. Each symbol is made by arranging raised dots within a six-dot braille cell.

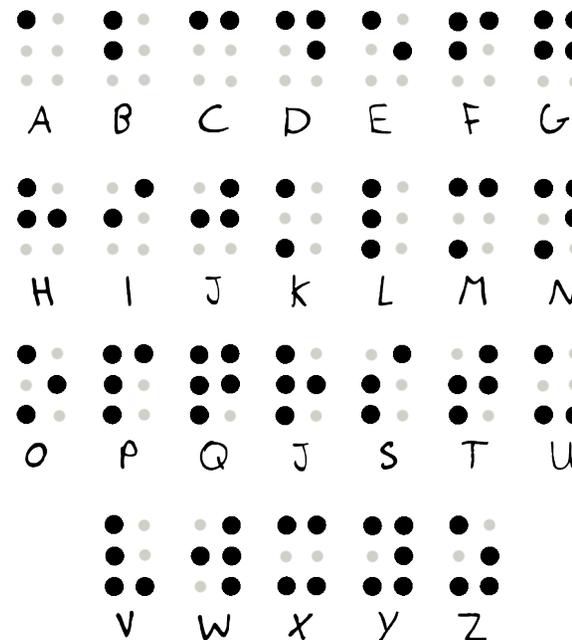


Can you work out what this says in braille? _____

Now write your name in braille!



Braille was invented by Louis Braille when he was only 15 years old!



Problem detection comic

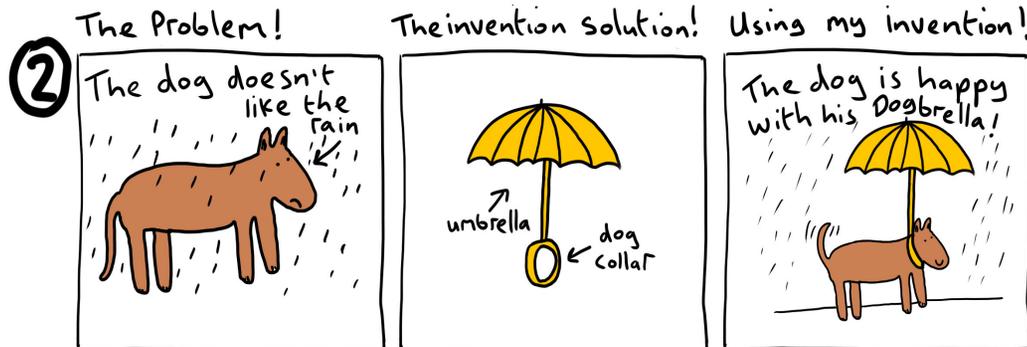
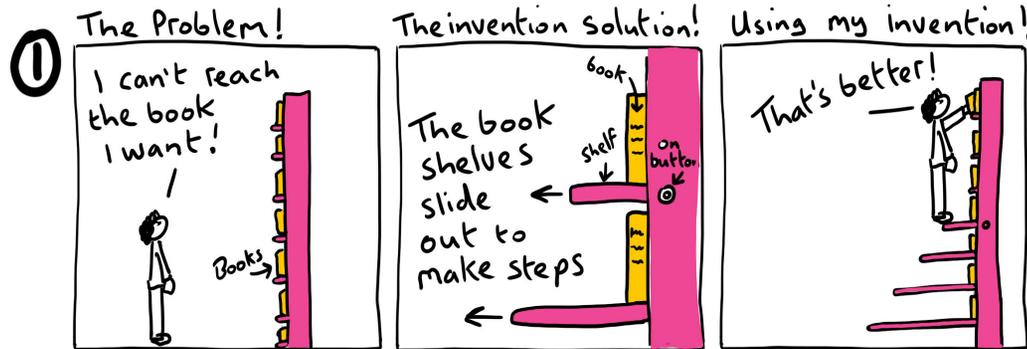
Thinking up a short story can help to come up with new invention ideas. Think about the beginning, the middle and the end.

Beginning - In the beginning there's a problem. Who has the problem and what are they finding difficult or annoying to do?

Middle - Think about a way to solve the problem. This is where you come up with your invention idea. The solution could be fun, unique, clever or totally bonkers!

End - Show how the problem was solved and how your invention is used.

Take a look at these example comics and then try drawing your own on the next page.

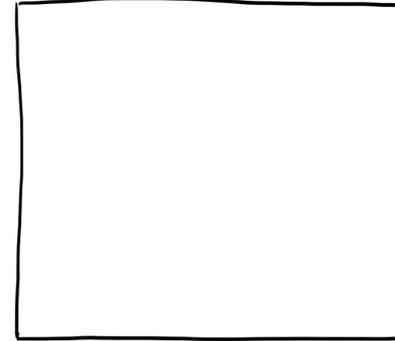
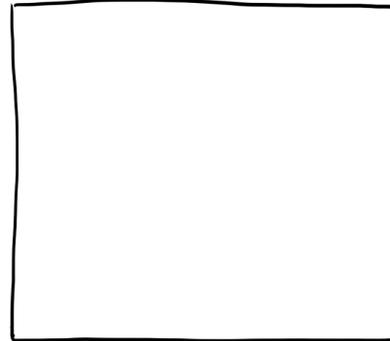


Now try these for yourself!

The Problem!



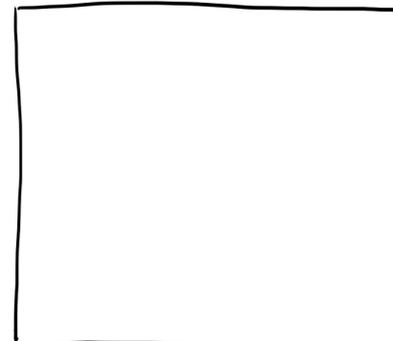
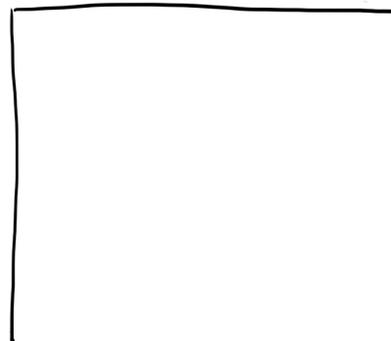
The invention solution! Using my invention!



The Problem!



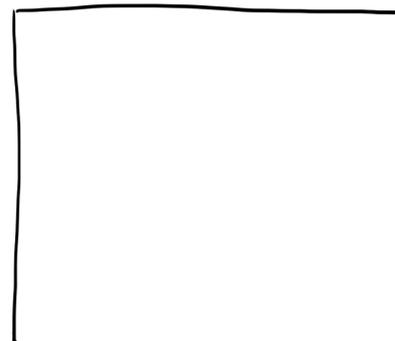
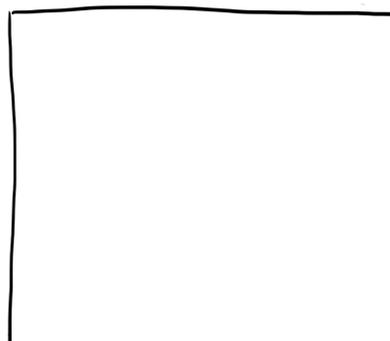
The invention solution! Using my invention!



The Problem!



The invention solution! Using my invention!



Helping Hand

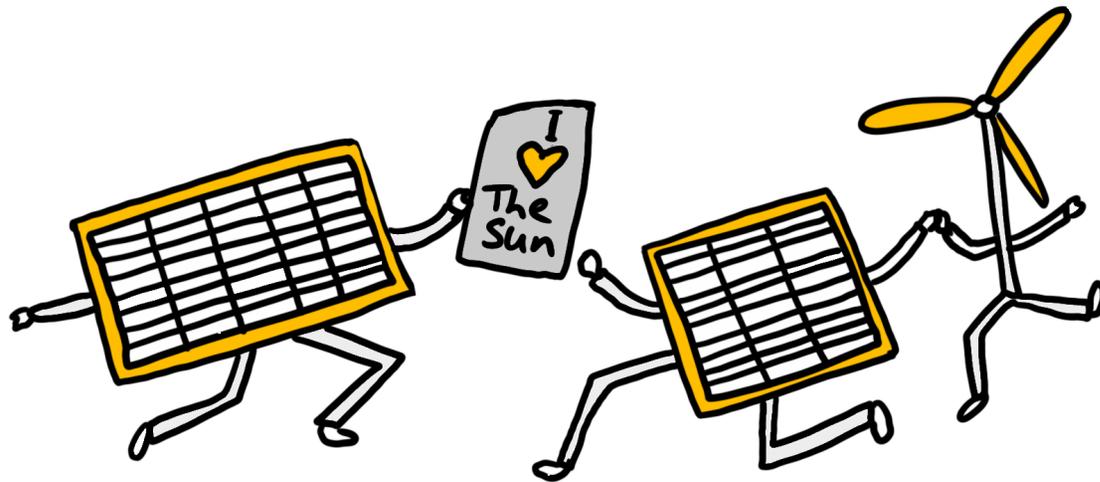
Everybody's different! Write down what you think might these different people, animals or aliens might need a helping hand with.

Here's an example!



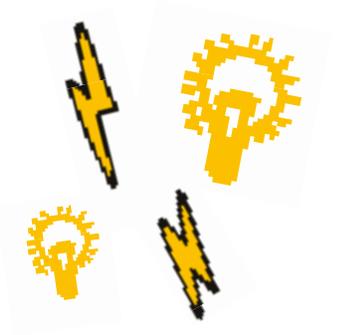
Part 2

Energy and Climate



My energy day!

Think about 4 things you do everyday that require energy. Draw them and write underneath where you think the energy comes from. If you don't know, why not ask a friend or teacher, or do some research on the internet!



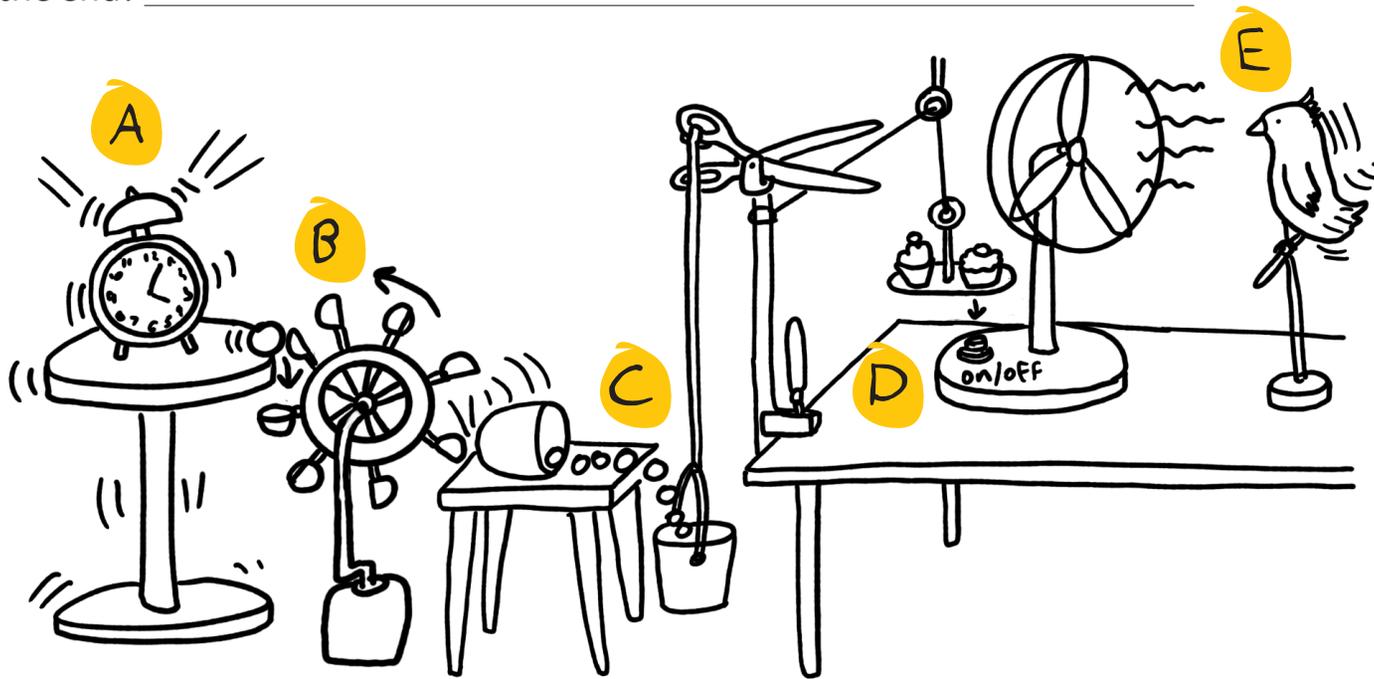
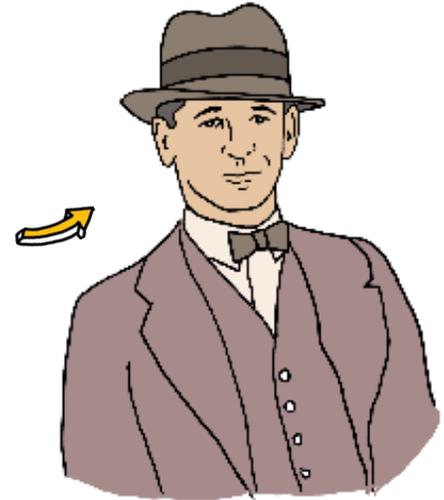
Make some notes about:
How could you use less energy?

What invention could help change your habits?

Who is Rube Goldberg?

Rube Goldberg was a cartoonist and inventor who became famous for his bonkers and complex machines that performed simple tasks.

Like this one! The machine starts when the alarm clock goes off. But what happens at the end? _____



Types of Energy

- Potential
- Kinetic
- Chemical
- Sound
- Mechanical
- Thermal
- Electrical
- Hydraulic
- Elastic
- Vibrational

Can you name the types of energy produced at each letter?



There may be more than one!

Dream green

Pick a room in your school or somewhere you spend a lot of time and make it more environmentally friendly. This can be any room – your bedroom, the school cafe, your classroom or your favorite restaurant.

What do you do within your chosen room that uses energy? Make a list below:

What could you do differently within your chosen room to save energy?
List your ideas and thoughts of how you might do this. Think about water wastage, heating, lighting, appliances.

How can you capture any wasted energy within the room?
Think about sunlight, water, movement.

Design your new greener room.

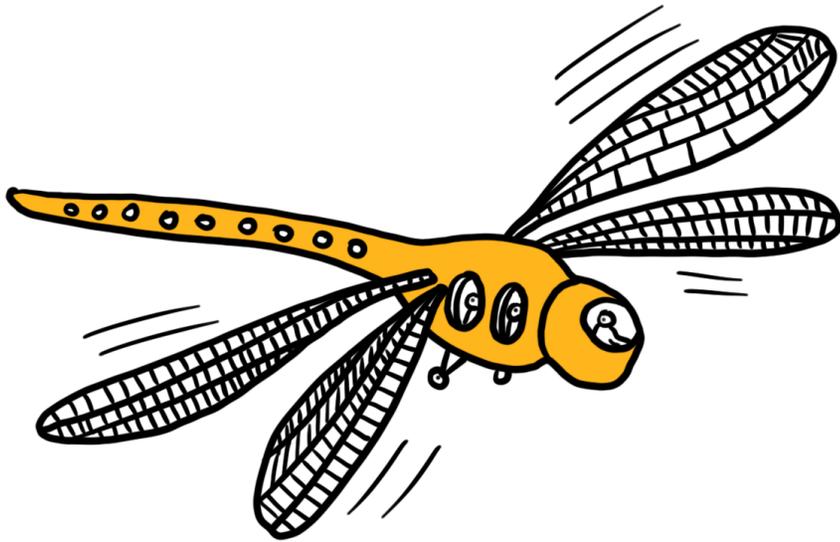
Label what you have added, adapted or taken away.



What type of energy is used or saved in your invention?

Part 3

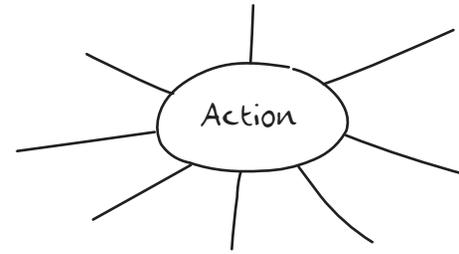
On the move



Let's move

During the day, our bodies are moving all the time, when you're playing, walking up the stairs, chasing your friends, or tidying up.

On the mind map add all the different actions you might do in a day or across the week.



How could these actions, movements and tasks be more fun? Could you use slides, wheels or ropes? Could you completely rethink how you navigate your way around the house or take part in daily tasks? *Write down your ideas in the box.*



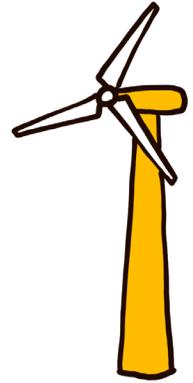
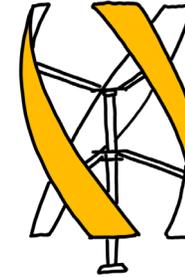
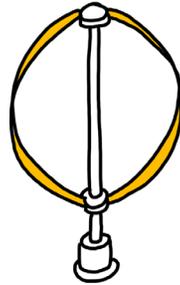
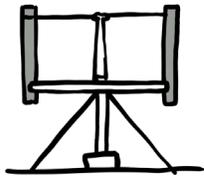
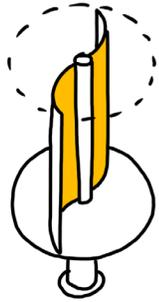
Choose one of your ideas and think about how you could make this idea environmentally friendly. This could be through the type of material it is made from, how it is powered, or whether it has multiple uses.

Draw and label your idea in the box.

Shape Up!

Did you know there are many different designs and shapes of wind turbines?

Engineers and inventors are still trying to figure out the best way to capture energy from the wind. Here are some examples of shapes:



Now it's your turn! In the boxes below, draw and label your new shapes of turbine. Think about where it would be located and how it would move.

Inspired by human movement

A large empty yellow box for drawing a turbine inspired by human movement.

Inspired by an animal or bird

A large empty yellow box for drawing a turbine inspired by an animal or bird.

Inspired by you!

A large empty yellow box for drawing a turbine inspired by you.

Fly like a bird!

Using nature as inspiration is known as **Biomimicry**



Draw your favorite animal in the box



How does it move? _____

How does it stay warm or cool? _____

Does it have any other special features that make it unique? _____

What could you invent that is inspired by the special characteristics of your animal?

Think of clothing, buildings, transport or anything else!
Write or draw your ideas in the box above.

My invention drawing sheets



My energy invention

Use a black pen, add colors and labels

My invention is called

.....

About the inventor *(that's you!)*

First name

Age

School

Town/city and country

.....

Tell us more!

(Who it is for, what it does, how it works!)

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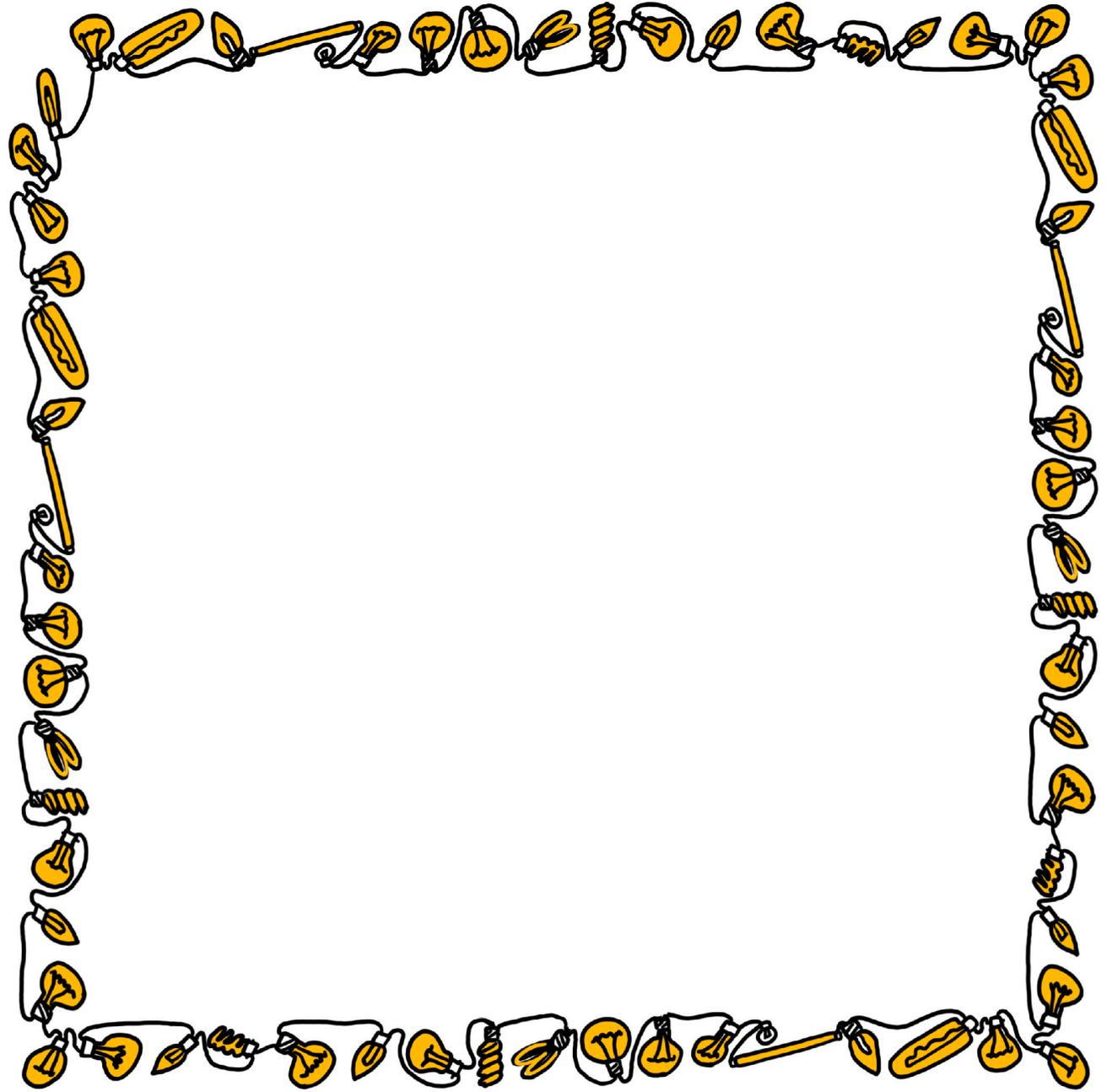
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And who knows, it could be chosen to be made real!



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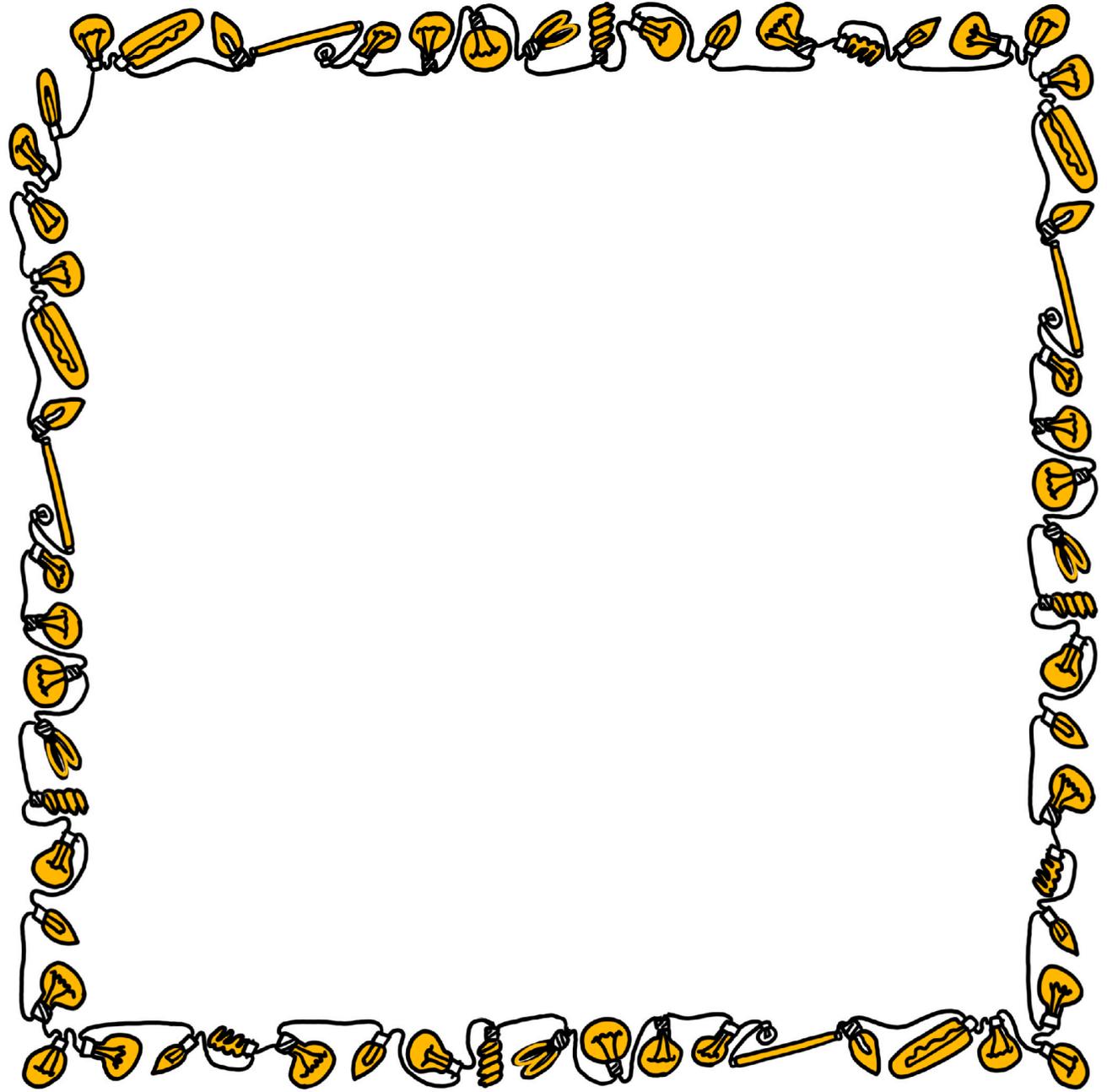
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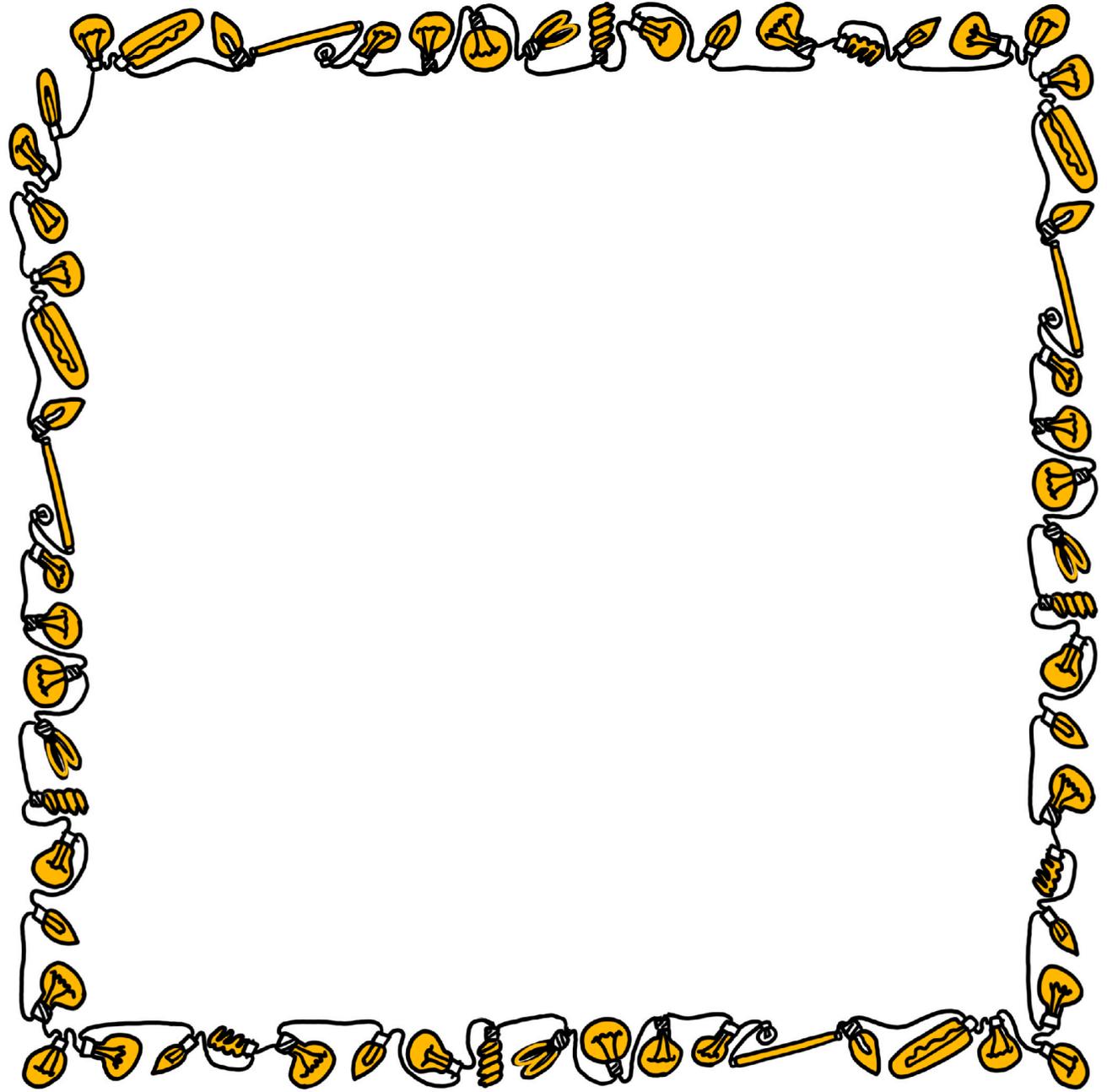
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