TRACER Bot

IDEA & ACTIVITY BOOK

EXPLORE! DISCOVER!

PLAY!
LEARN SCIENCE!
EXPERIMENTS,
GAMES, MAZES

TRACER Bot

THIS BOOK BELONGS TO:

TRACER Bot

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TRACER Bot

Say hello to Tracerbot, an adorable robot that inspires creativity, curiosity, logic, problem solving and fine motor manipulation skills. Equipped with an optical sensor, this inductive robot could follow every trail you draw out with your marker!

Design your own trails and compete with your friends on creating the most intricate routes! Help Tracerbot move through different obstacles, careful not to topple over a building there!

TRACER Bot

HOW DOES IT WORK?

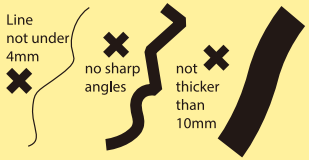
Tracerbot uses an optical sensor that helps him read the black lines drawn on a piece of paper.

HOW THICK SHOULD THE LINE BE?

1. Draw a thick line that is at least a quarter inch (1/4") thickness.

The line must be black and totally filled in. Use the Tracerbot marker

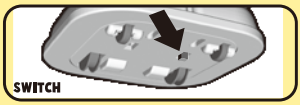
2. Avoid drawing lines similar to the following patterns.



HOW TO PLAY

1. Use the Tracerbot Marker to draw a line as shown above on a white piece of paper.

2. Turn on the switch at the bottom of the Tracerbot. Now he's ready for fun!



3. Place your Tracerbot on the drawn line.

4. Tracerbot's favorite game is to chase lines! Tracerbot will run on the line automatically!

5. If the line finishes, Tracerbot will follow the line back to the start.

6. If the line is too thin, Tracerbot may stray off the line. Make the line thicker so Tracerbot doesn't get lost!

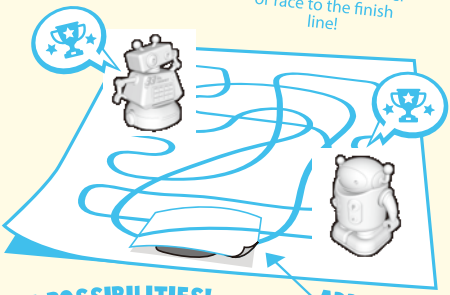
TRACERBOT

GET CREATIVE!

Challenge your Tracerbot to fun trails!

COLLECT ALL 3!

Have all Tracerbots chase after each other or race to the finish line!



THE POSSIBILITIES!

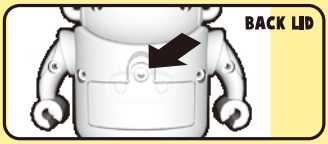
ADD IN!

Connect sheets of paper! Draw complex highways and have your Tracerbots ride through a Tracerbot city!

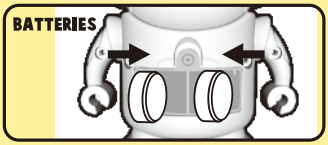
TROUBLE SHOOTING

REPLACING BATTERIES

1. Use a small screwdriver to open the lid at the back of the Tracerbot.



2. Place 2 new button cell batteries in the compartment.



3. Close and screw the lid back on the back of the Tracerbot. Now Tracerbot has power to play for hours!

CONTENTS:

2 Exclusive Tracerbot
2 Button Batteries(1.5v) per Tracerbot.
1 STEM Activity Book,
2 Tracerbot Markers.

SOME TIPS!

• If the Tracerbot does not stay on the drawn track, draw a thicker line. Best results will always happen when using the exclusive Tracerbot Marker.

• Do not use Tracerbot in direct sunlight, near daylight lamps or on glossy paper.

BATTERY WARNING

• Do not mix old and new batteries.
• Non-rechargeable batteries should not be replaced
• Rechargeable batteries should be removed from the appliance before being charged.
• Rechargeable batteries should be charged under adult supervision only.
• Exhausted batteries should be removed.
• The supply terminals should not be circuited.
• Only batteries of the same equivalent type are recommended to be used.
• Batteries should be inserted with the correct polarity.

TRACER Bot

USE YOUR IMAGINATION TO HELP TRACERBOT MOVE AROUND THE CITY

USE THIS BOARD BACK SIDE FOR ALL OF YOUR TRACERBOT DRAWINGS AND EXPERIMENTS.

CELTIC KNOT

These knots are complete loops that have no start or finish and could be said to represent eternity whether this means loyalty, faith, friendship or love.

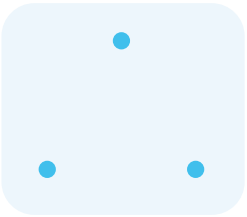
HOW MANY HEARTS ARE THERE IN THIS KNOT?

LOVE KNOT

The Celtic love knot resembles two interlocking hearts and usually sits within an oval shape.

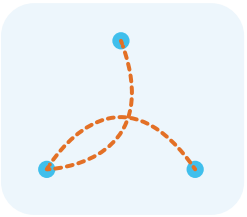
TRY THIS YOURSELF!

DIY CELTIC KNOT

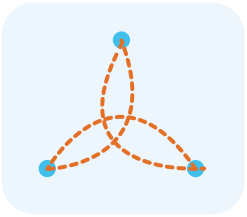


Draw three dots in the shape of a triangle

Connect the bottom two dots so it forms a frown

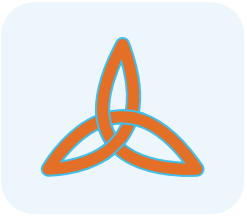


Now connect the top dot to the bottom left so it becomes a fish!

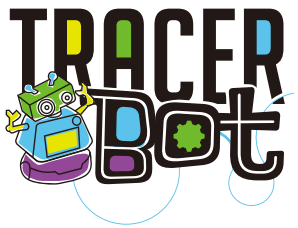


Draw three dots in the shape of a triangle

Connect the dots as shown in the diagram



Remember to add in some shading!



PRACTICE YOUR CELTIC KNOT DRAWING SKILLS HERE

WHAT KIND OF KNOT IS THIS?

answer at the bottom!

COMPLETE THIS DRAWING!!

what you need:

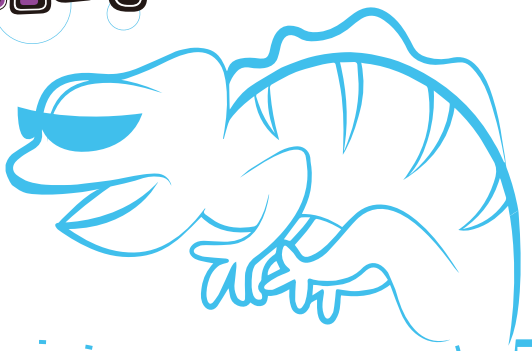
Tracerbot Marker
Your hands
Tracerbot

The Celtic Spiral design is a three-sided knot standing for water, fire and earth.

MAKE YOUR OWN CELTIC SPIRAL HERE

PATTERN DESIGNS

When a chameleon is at rest, the tail curls into a tight spiral. It is not fully understood if this action is due to the fact that it makes the chameleon appear larger, possibly helping to ward off potential predators, or if it is simply a more comfortable position, it appears to be a common resting point for all chameleons with prehensile tails regardless of the genus.



DID YOU NOTICE? OTHER SPIRALS IN NATURE!

CONNECT THE DOTS TO MAKE A PATH FOR YOUR TRACERBOT!

DO YOU BELIEVE IN YOUR EYES?

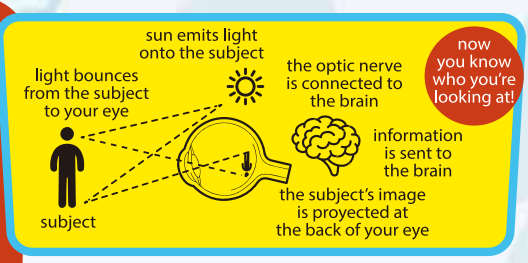
Today's technology is so advanced nowadays that it almost seems magical!

This is the result of the hard work of creative and smart people that have been curious and created new things to help us learn, work and live a better life.

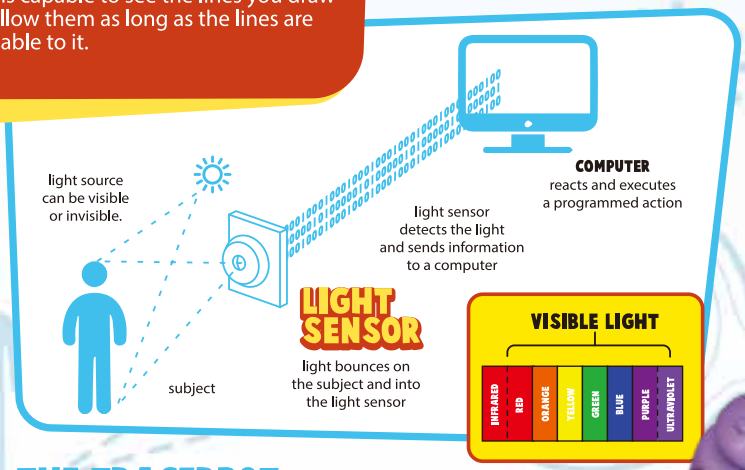
Tracerbot is exactly that! Using that amazing technology, Tracerbot may seem to have a life of its own but it has super advanced components that let it see the same way that your eyes see.

With light sensors, your new learning friend is capable to see the lines you draw and follow them as long as the lines are detectable to it.

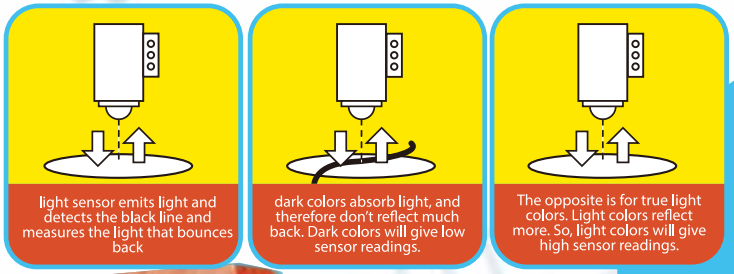
HOW DO YOUR EYES WORK?



YOUR EYE IS A NATURAL LIGHT SENSOR!



UNDER THE TRACERBOT



TRACERBOT RECOGNIZES YOUR LINES AND ITS MICRO COMPUTER TELLS IT WHAT TO DO SO IT DOESN'T LOSE TRACK OF YOUR DRAWING!

WHAT IS THE NAME OF THE CLOSEST STAR TO EARTH?

TRACER BOT

THE MYSTERIOUS MOBIUS THEORY!

The Möbius strip is a surface with only one side and one edge. It can be made using a strip of paper by gluing the two ends together with a half twist.

The twisting is possible in two directions; so there are two different Möbius strips.

Dimensions:

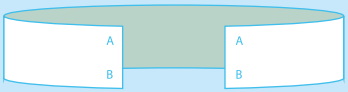
WOULD YOU LIKE TO GIVE IT A TRY?

what you need:

A4 Paper
Scissors
Tracerbot Marker
Tape or Glue
Ruler
Your hands

Reminder!
We love our fingers! Make sure an adult is with you when you use scissors!

1



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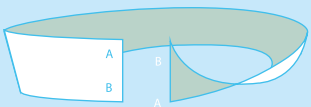

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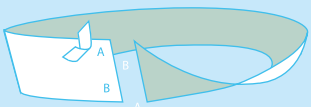
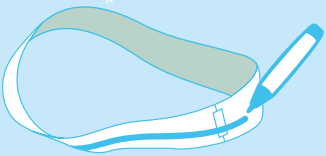


4

DRAW!



GET TRACERBOT GOING! IT WILL RUN IN IT FOREVER! (OR UNTIL IT RUNS OUT OF POWER!)

BONUS POINTS:

What is the name of the closest star to Earth?
answer at the bottom of the page

THE SUN IS THE CLOSEST STAR TO EARTH ABOUT 93 MILLION MILES AWAY.

TRACER BOT

TRACERBOT INFINITE LOOPS

LET'S TRY THIS CHALLENGE!

what you need:

A4 Paper
Scissors
Tracerbot Marker
Tape or Glue
Ruler
Your hands

Reminder!
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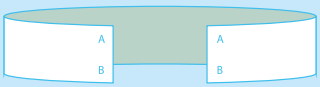
1



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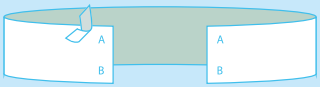

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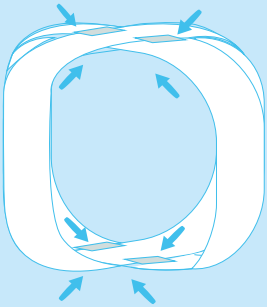

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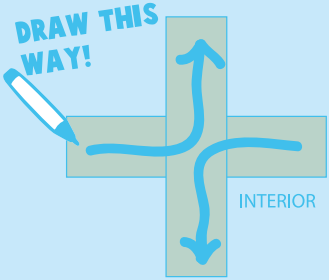


REMEMBER TO DRAW IN THE SHAPE OF 8 SO THAT YOUR TRACERBOT WILL KEEP ON RUNNING!

BONUS POINTS:

What was the first ever home video game?
answer at the bottom of the page

THE FIRST EVER HOME VIDEO GAME DEVELOPED AS IN 1967. IT WAS CALLED BROWN BOX

TRACER Bot

DESIGNING A LANGUAGE!

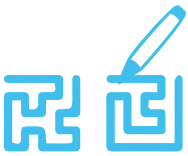
BACK IN TIME

The Maya created a written language. Maya hieroglyphics are often referred to as "glyphs" for short. The Maya had about 800 symbols. Archaeologists have figured out what many of the symbols mean, but not all of them. Some glyphs were used as numbers. Some were used as sounds. Some were phrases or words. To read Maya glyphs, you read downward, left to right, in pairs.

HOW MANY DIFFERENT PATTERNS CAN YOU CREATE?

The English word alphabet comes (via Latin) from the names of the first two letters of the Greek alphabet: alpha and beta.

Let's create your own alphabet using the English Alphabet system!

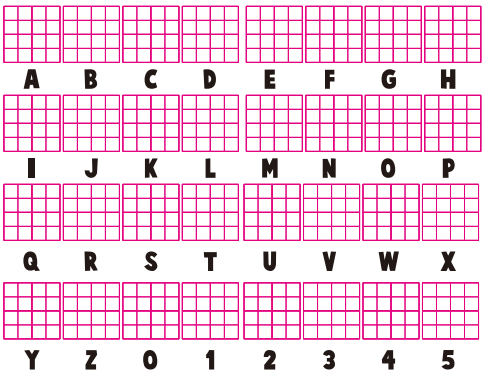


Make a pattern using the grid as your guideline. Make sure you draw inside the squares!

EXAMPLE

A B C

Make sure they don't look like the original alphabets! Remember, there are thousands of patterns for you to invent!



A B C D E F G H

I J K L M N O P

Q R S T U V W X

Y Z 0 1 2 3 4 5

6 7 8 9

WRITE YOUR NAME IN YOUR NEW LANGUAGE AND LET TRACERBOT FOLLOW THE TRAIL

TRACERBOT CODING ACTIVITY

WOULD YOU LIKE TO GIVE IT A TRY?

what you need:

Tracerbot Marker
Your creativity

CODING

This simple but effective offline coding game will help you learn about binary code and building algorithms!

HOW TO PLAY:

Try to connect the sequence of a spider's lifecycle from start by connecting each part with only these four arrows.

		BABY SPIDERS	
EGG SAC			
		SPIDER EGGS	
			SPIDER
START			

BONUS POINTS:

What type of species are spiders?

answer at the bottom of the page

SPIDERS ARE ARACHNIDS, WHICH ARE TYPICALLY 8 LEGGED WITH NO ANTENNAE, CLAWS OR WINGS

TRACER Bot

TRACERBOT CODING ACTIVITY

WOULD YOU LIKE TO GIVE IT A TRY?

what you need:
Tracerbot Marker
Your creativity

CODING
This simple but effective offline coding game will help you learn about binary code and building algorithms!

HOW TO PLAY:

Try to connect the sequence of a plant's lifecycle from start by connecting each part with only these four arrows.

			VEGETATIVE
FLOWERING		GERMINATION	
SEED			
		SEEDING	
START			

BONUS POINTS:

Which country is named after a plant?
answer at the bottom of the page

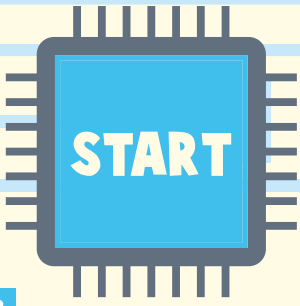
BRAZIL IS THE ONLY COUNTRY NAMED AFTER A TREE. BRAZIL IS NAMED AFTER THE INDIGENOUS BRAZILWOOD TREE

TRACER Bot

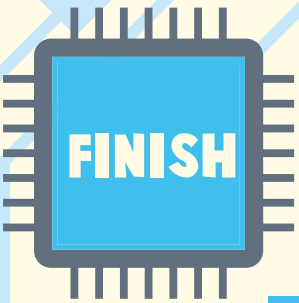
CLOSE THE CIRCUIT!

HELP TRACERBOT GET TO THE OTHER SIDE!

Use your Tracerbot Marker to map out the route for your Tracerbot!



CLOSE THE CIRCUIT!



POSTER!

WRITE YOUR NAME ON THE WHITE SPACE
CUT OUT THIS SIGN FOR YOUR BEDROOM'S DOOR!

TRACER Bot

TAKE YOUR CREATIVITY TO THE NEXT LEVEL. CHALLENGE YOUR TRACERBOT TO HOURS OF FUN!

STEAM
SCIENCE • TECHNOLOGY ENGINEERING • MATHS
LEARNING

ROUTE PLANNING!

LOGICAL THINKING!

PARENT-CHILD GAMEPLAY!

3 DIFFERENT TRACERBOTS!

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