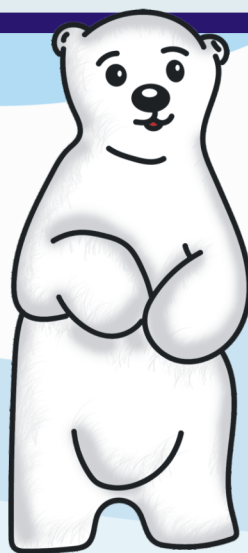




# HEALING our PLANET



with  
GOLU







# HEALING OUR PLANET WITH GOLU

## **Credits**

**Illustrated by:** Abhilipsa Das, Sneha Jain, Devapriyan, Arsh Shaikh

**Concept and Script:** Shreya Kulkarni, Sumant Chopde, Ashli Jain

**Project Coordinators:** Ashli Jain, Arya Narnapatti









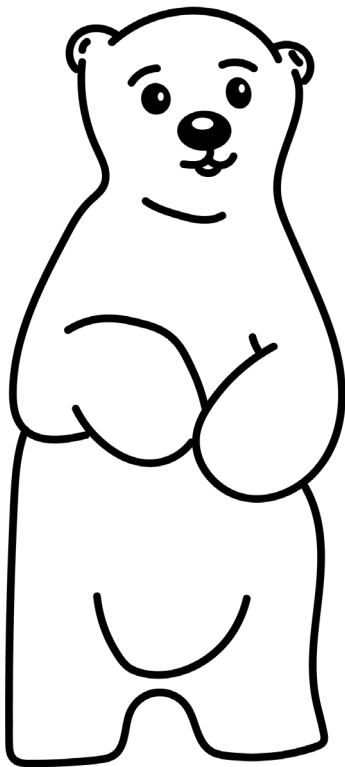
## ABOUT US

We are a group of students from IISER Pune, India, participating in a synthetic biology competition called iGEM (International genetically Engineered Machine).

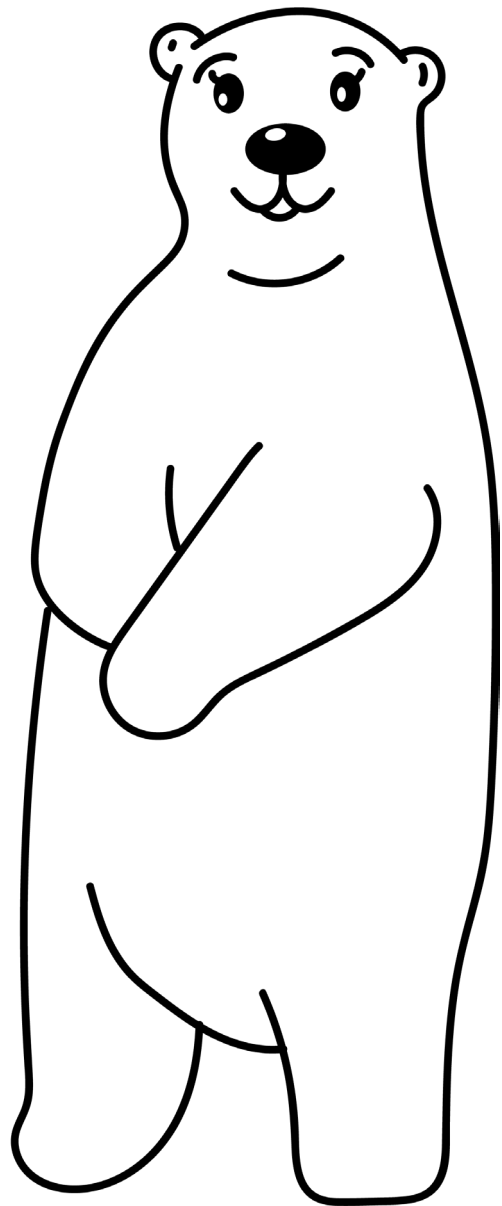
Our project involves synthesising industrially important metabolites from light and atmospheric CO<sub>2</sub> through synthetic biology to reduce carbon emissions in light of the ongoing climate crisis. As a part of our outreach initiative, we have created this activity book for children aged 4-8 years to explain climate change.

This book is full of different activities that will help kids understand various factors causing climate change and how they can help by following eco-friendly practices in their daily lives.

*Character introduction*



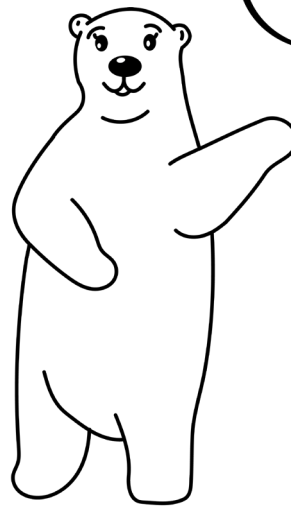
*Meet Golu,  
the curious baby polar bear!*



*And this is his mommy!*

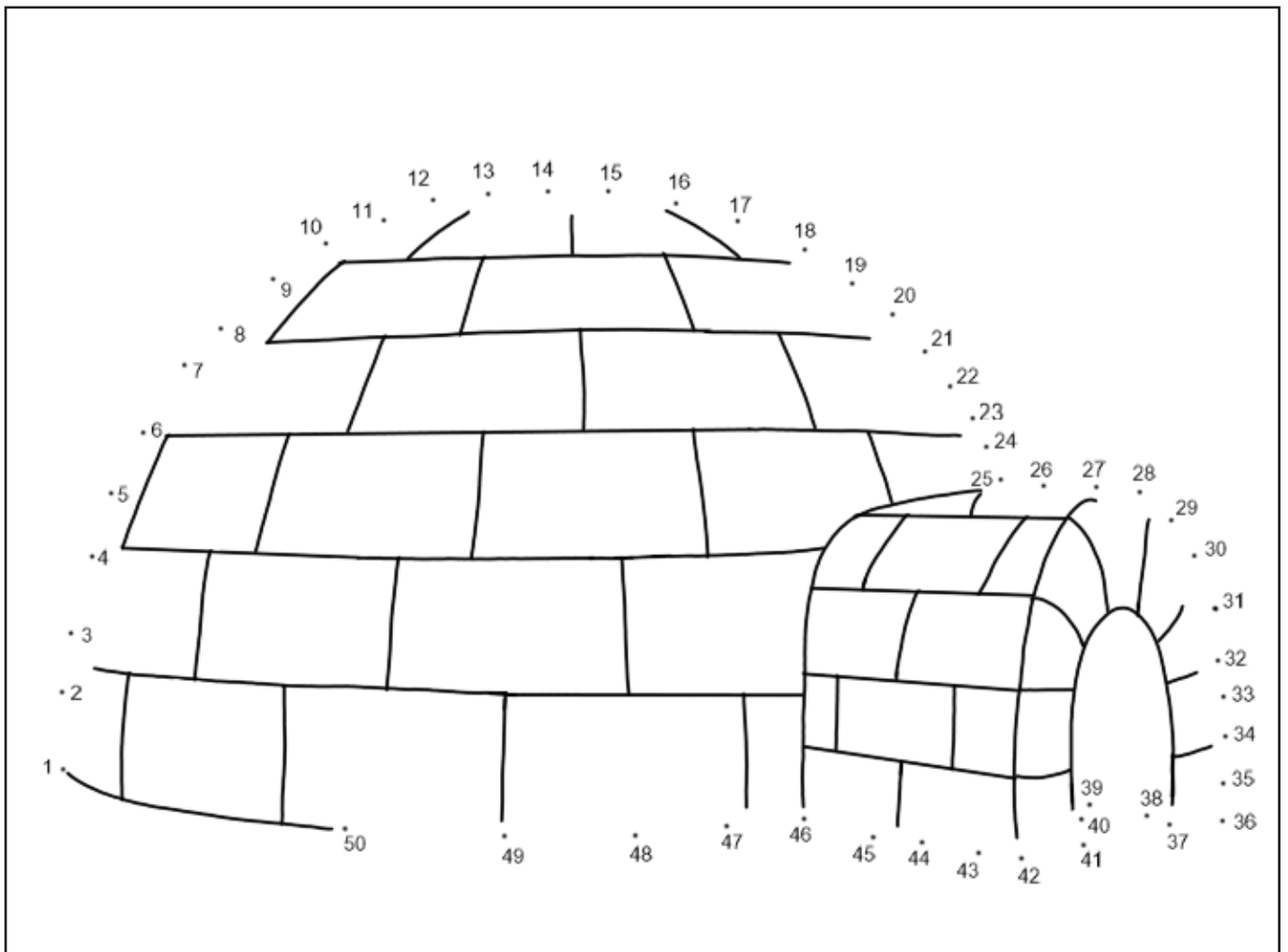
*They will take you through an exciting journey around the world to  
teach you all about CLIMATE CHANGE!*

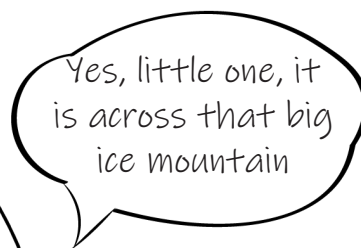
Hey Mommy! why is everyone packing up? Are we going somewhere?



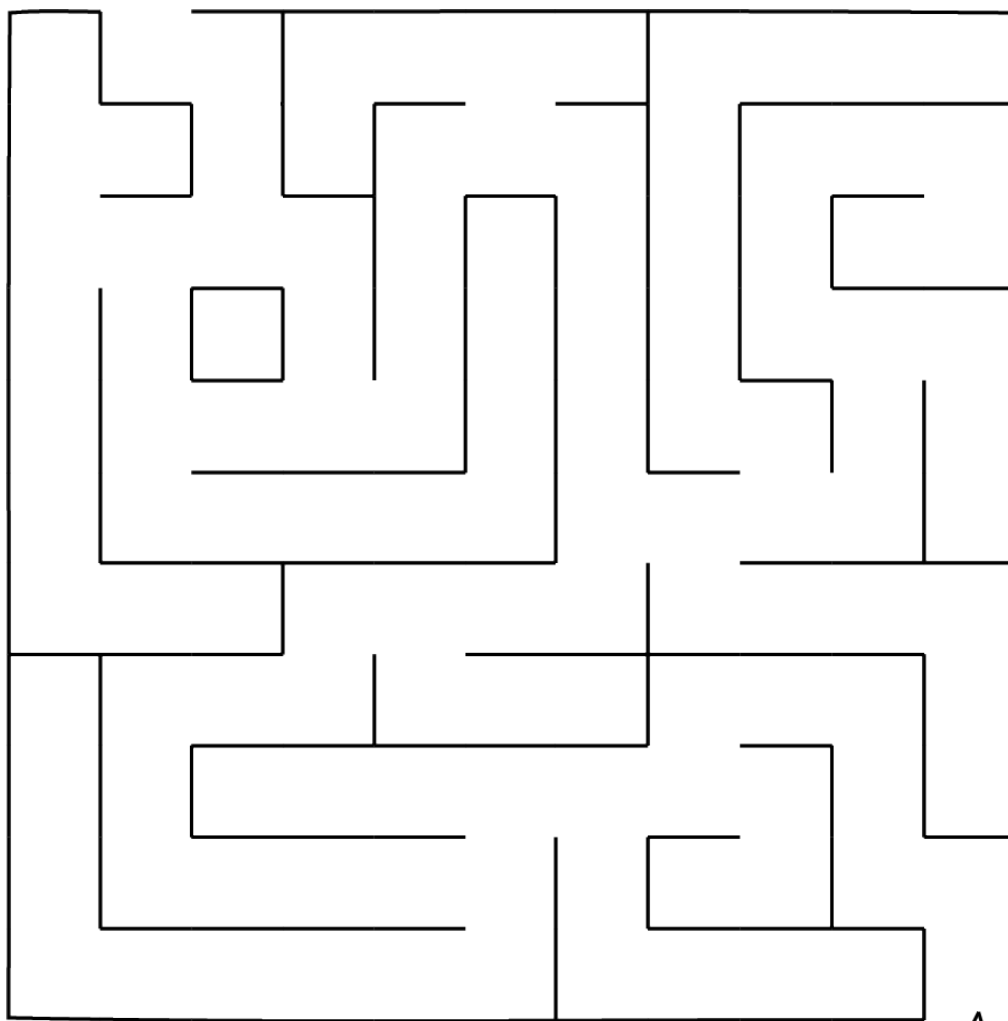
Yes little one, we are going to a new home!

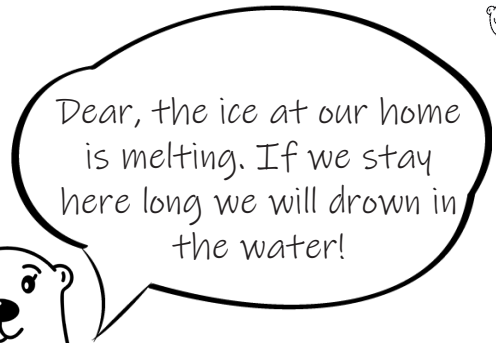
*Join the dots to complete the picture!*






*Help Golu and Mommy to reach the mountain.*



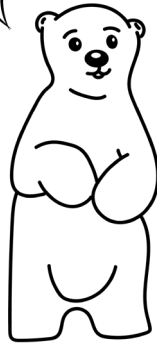


*Spot the 5 differences between the two images*

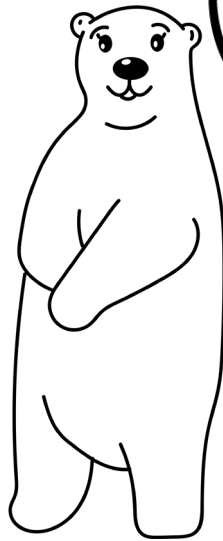




Mommy, where do other animals live?



Dear Golu,  
we live on a beautiful planet called Earth. Earth is filled with lovely trees, big and small animals, tiny insects, colourful birds and fish.



*Match the words with the pictures.*

**Bird**

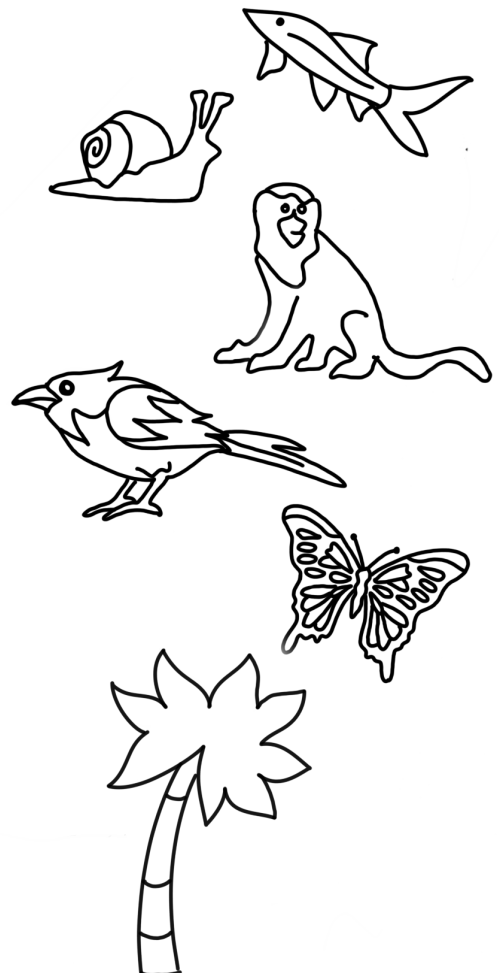
**Butterfly**

**Snail**

**Tree**

**Fish**

**Monkey**



Wow! Earth seems really wonderful. But what does it have to do with us finding a new home?

An animal, called 'Human', also lives on Earth. Humans are also dependent on mother Earth. Let's learn more about them!

*Count the number of people, the number of people plucking apples, the number of chickens, the number of apples in the trees, the number of men and women.*



People   
Chickens

People plucking apples   
Men

Apples   
Women

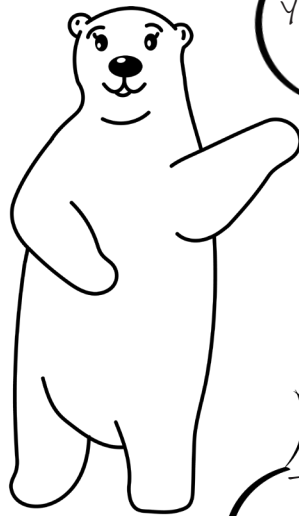


Humans.. Hmm... They seem to need nature the most

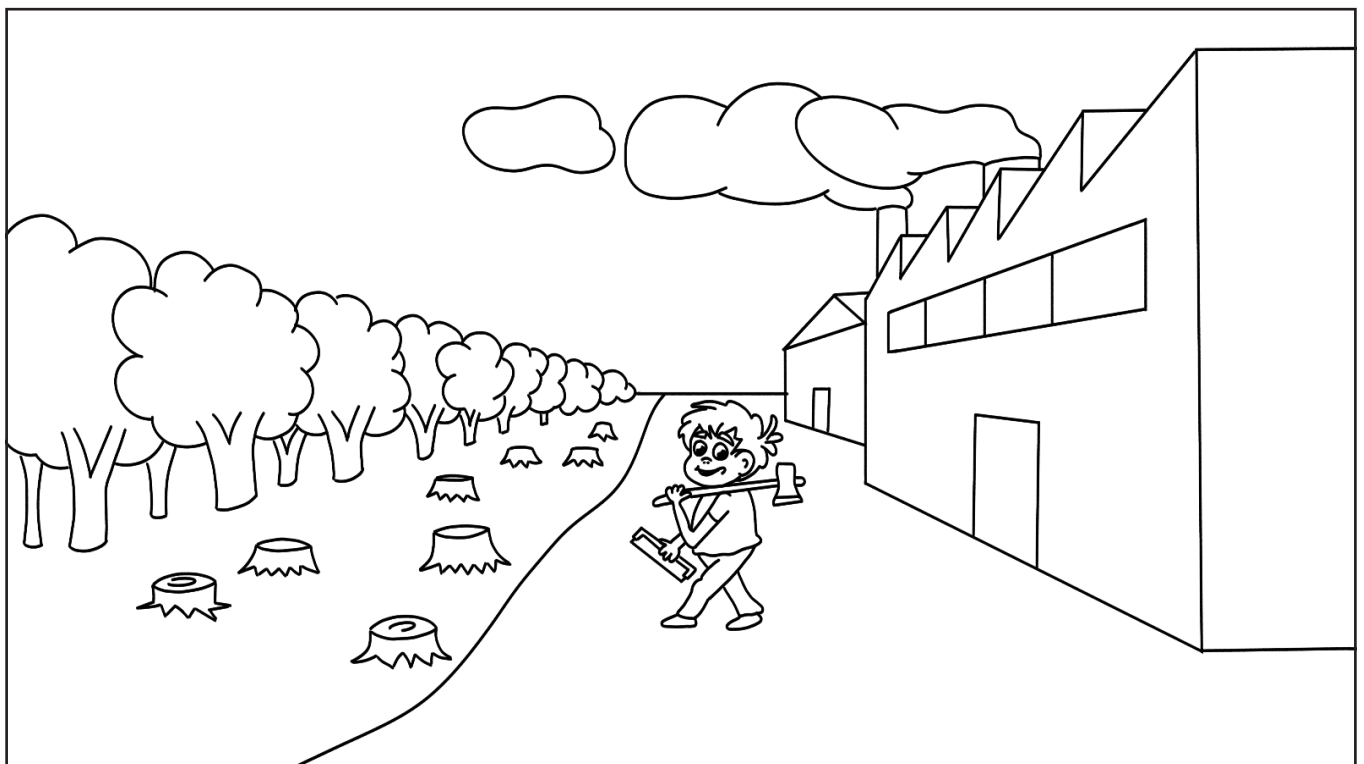
Yes they do.. But there is a sad part to it.

What is the sad part?

They don't seem to take care of Mother nature, the way they should.



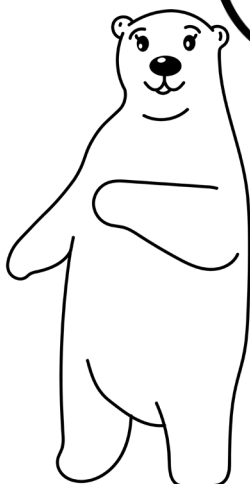
*Colour the picture*





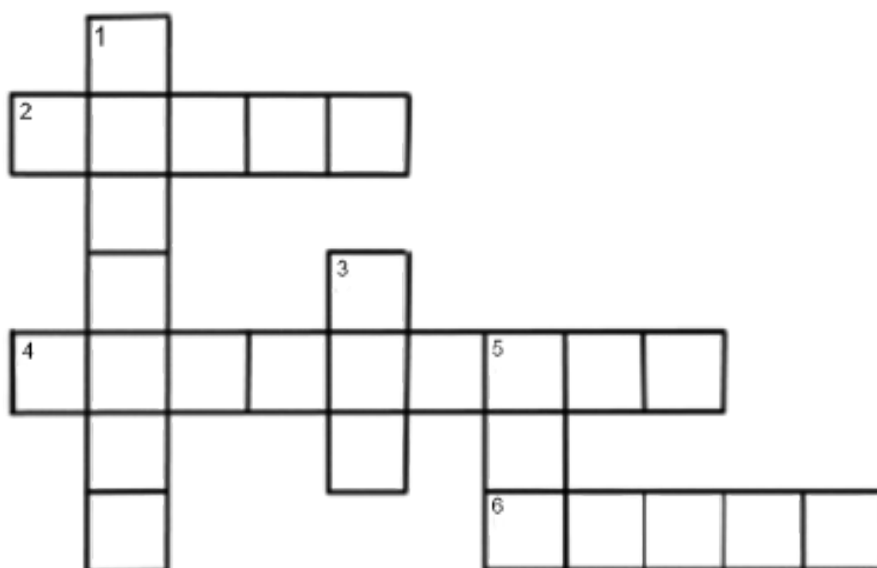


Oh no! That is really sad. Is this causing all the ice to melt?

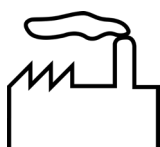


Exactly, my child. All the pollution is causing our earth to heat up. The rise in the temperature makes all the ice melt. This is Global warming.

Complete the crossword



1.



2.



3.



4.



5.



6.



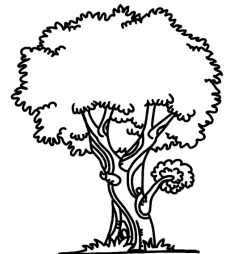
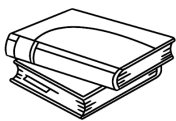
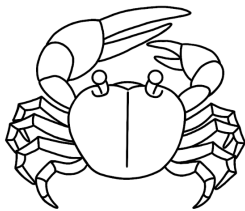


Global warming  
looks really bad!



It is bad for all  
the living things on  
Earth!

*Classify the following into living and nonliving things.*



*Living*

---

---

---

---

*Non living*

---

---

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Does this mean  
that Earth has a  
fever?



Yes dear Golu, you  
could say that the  
earth has a fever!

*Colour the picture by using the numbers given below.*



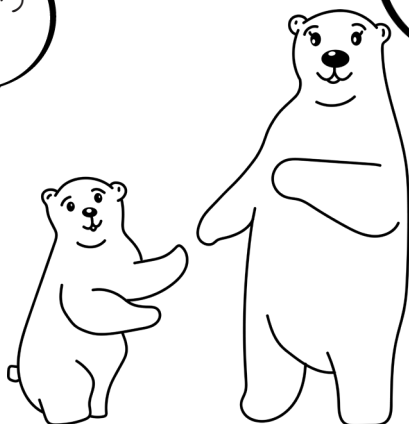
1 - Red  
4 - Green

2 - Blue  
5 - Yellow

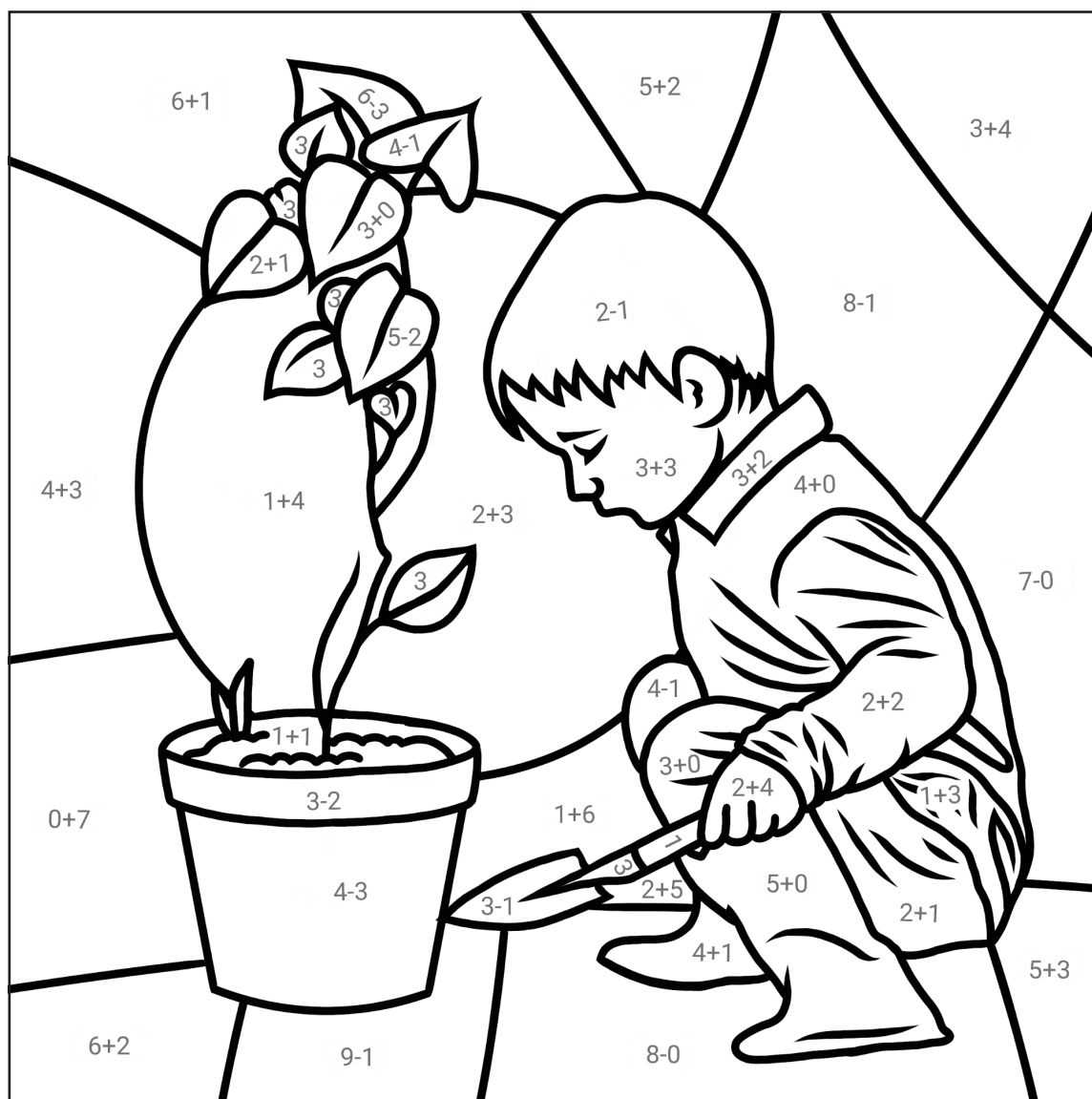
3 - Orange  
6 - Grey



Yes! We can tell all our human friends to plant more and more trees. Trees help in stopping Global warming.



*Solve the problems and colour the picture using the answers!*



**4-Violet**  
**8-Red**

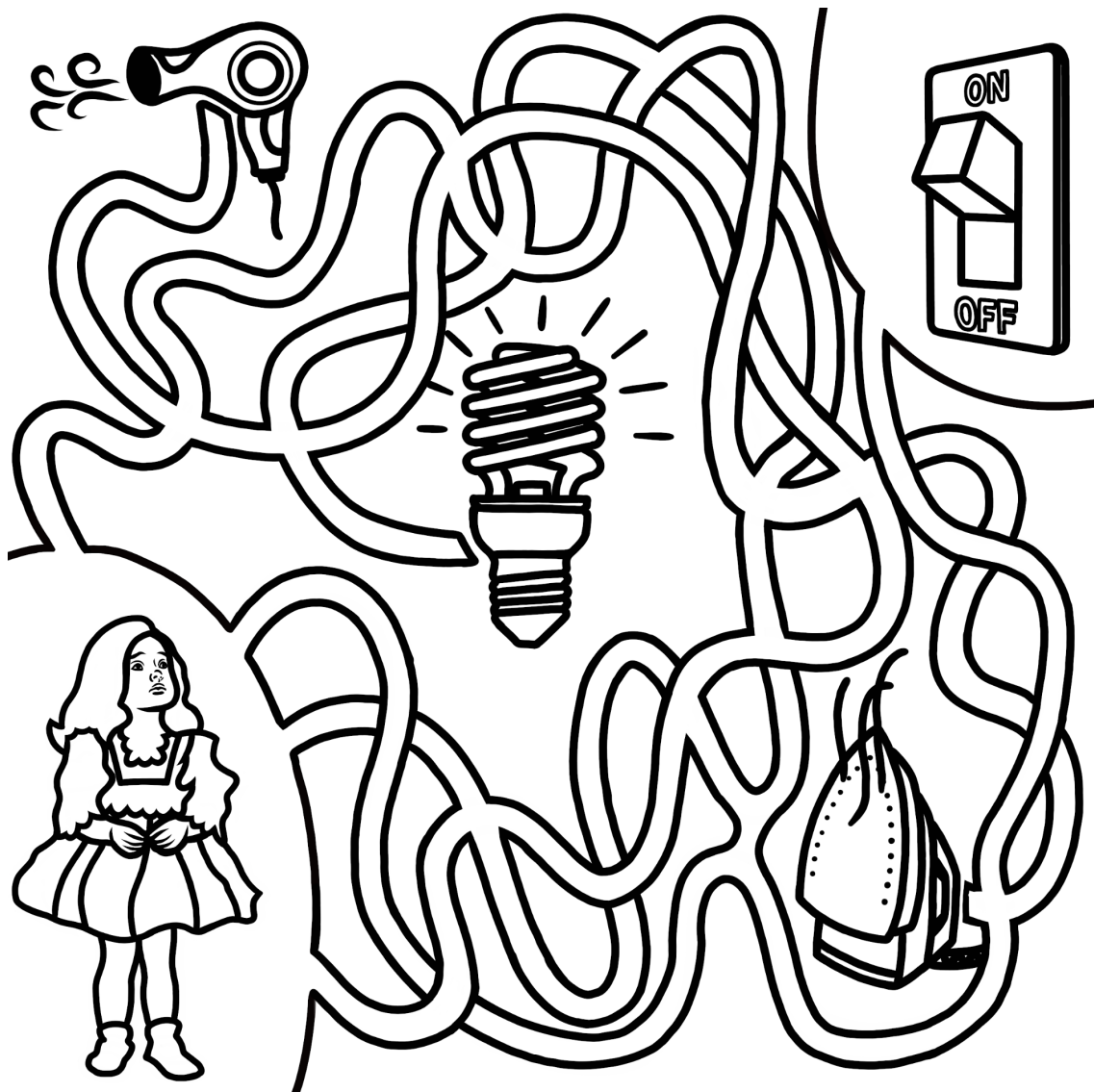


Our friends should save electricity by switching off lights and fans when they are not in use.

That would help save energy, right?

Yes Golu! Saving energy also helps save the planet.

*Help the girl to reach the switch so she can quickly turn it off!*

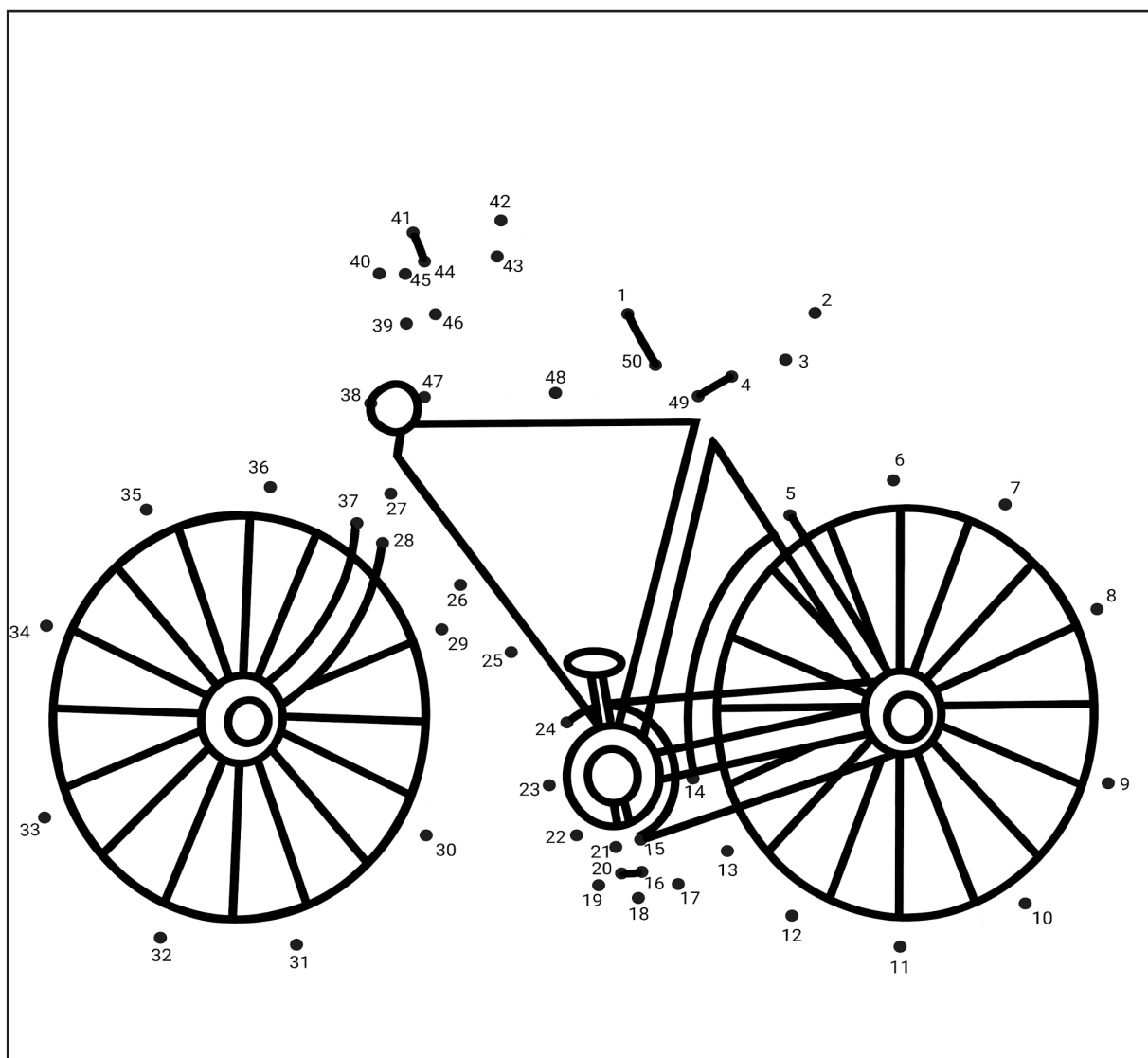


Do you know what could make a big difference? Using bicycles instead of a car.

Isn't the smoke coming from cars harmful for everyone?

Yes! Exactly Golu!

*Join the dots by number to make a picture of a bicycle and colour it.*

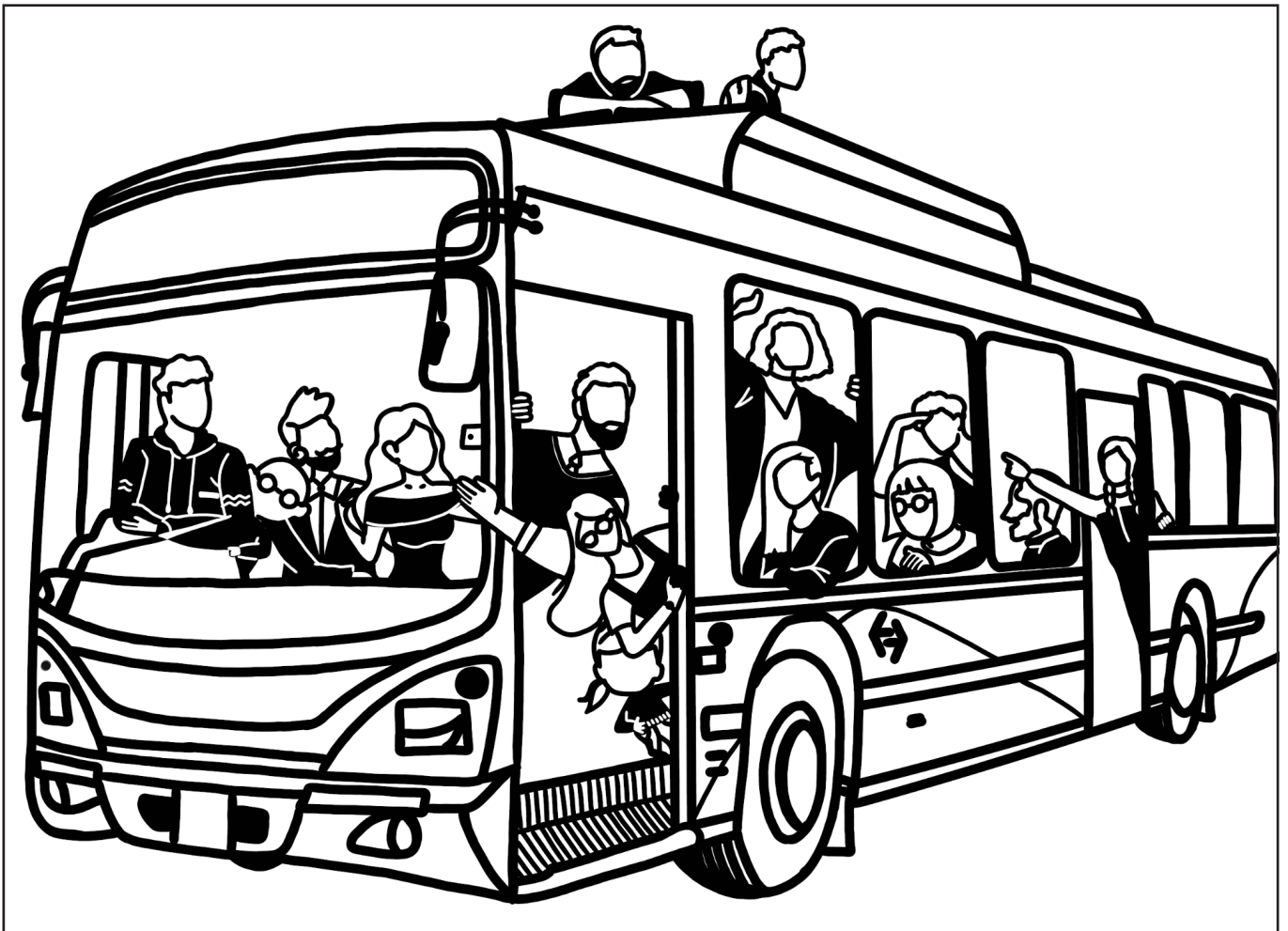


But what if our friends don't have a bicycle?

Then they can use public transport like trains and buses.



*Count the number of people in the bus and colour the picture.*



Number of people



Golu, do you remember how we talked about saving energy by switching off light bulbs?

Similarly, we can use renewable energy sources for our needs.

Yes mommy

*Find the words given below in the following puzzle.*

D	P	Q	W	Z	T	D	C	K	B	B	Z
U	D	R	E	N	E	W	A	B	L	E	M
S	O	Y	B	I	C	Y	C	L	E	D	T
T	B	E	X	E	A	Y	V	U	E	Q	G
B	U	X	X	I	P	W	B	U	L	B	K
I	S	E	Q	D	G	F	D	H	A	S	Q
N	Z	H	T	C	I	Z	C	D	H	A	H
H	E	H	A	P	R	O	J	P	T	J	S

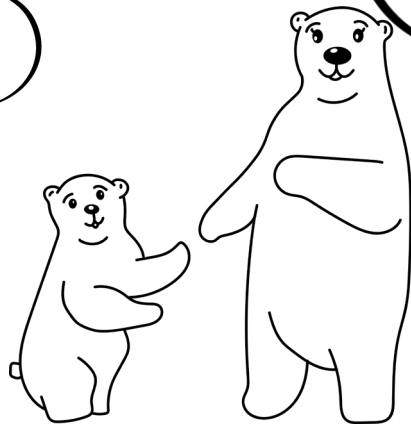
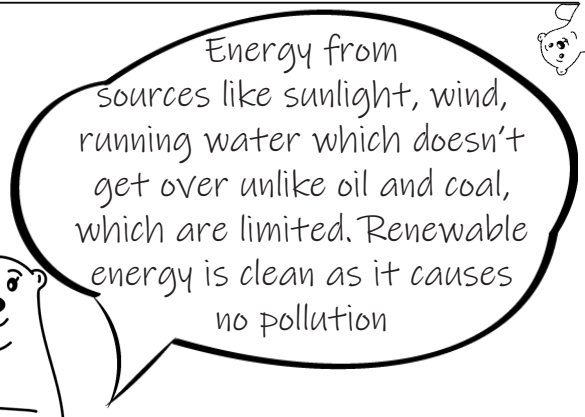
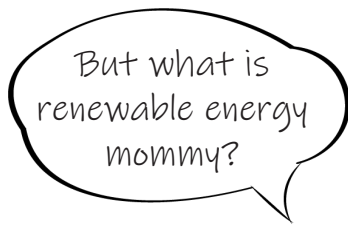
Find the following words in the puzzle.  
Words are hidden → and ↓ .

BICYCLE  
BULB

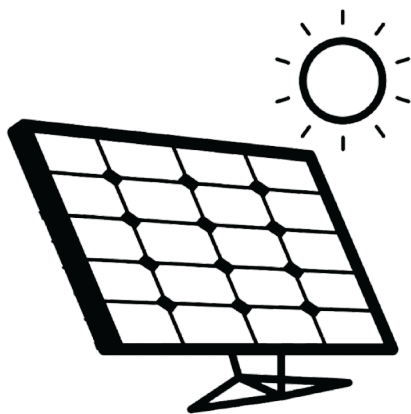
BUS  
DUSTBIN

RENEWABLE





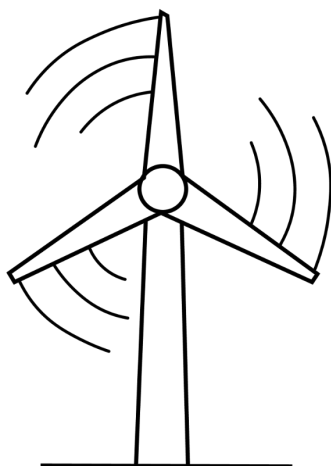
*Colour the pictures of all the renewable sources of energy.*



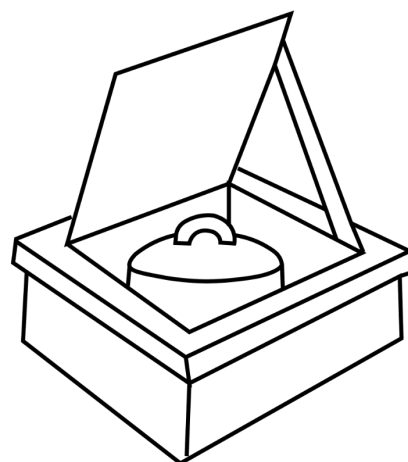
Solar Panel



Rain



Windmill

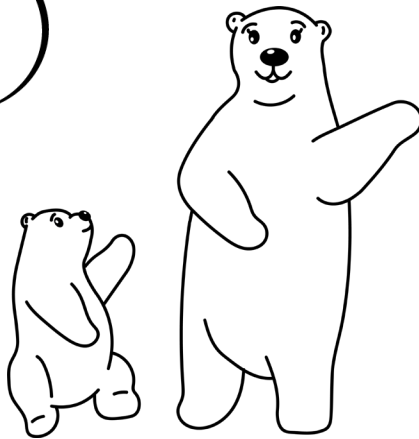


Solar Cooker



Wow! That is very informative. Waste also makes the earth unhealthy, right?

Yes my child, In fact, everyone should put the waste in the dustbin only.



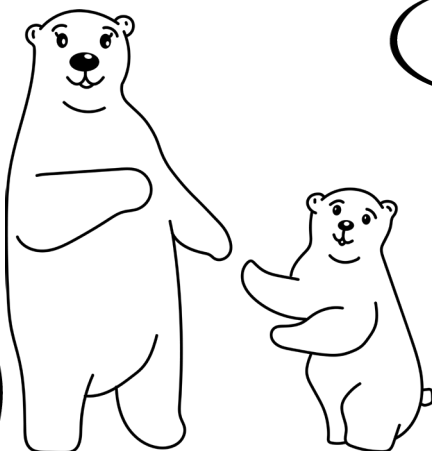
*Circle the things in the garden that should be put in a dustbin.*



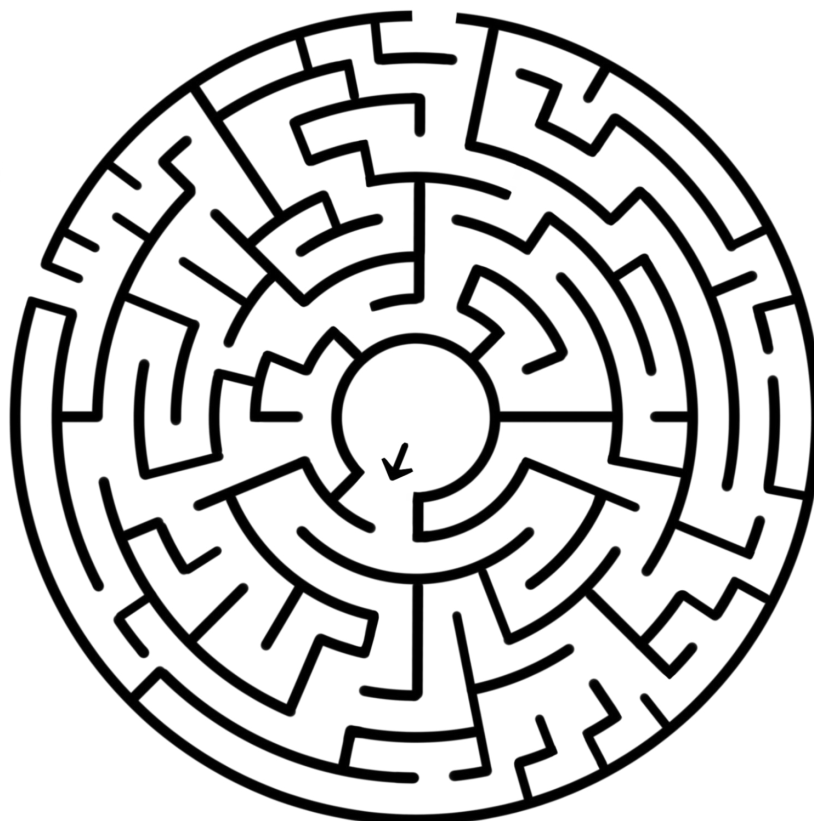
You must have seen things floating in the water, right?


Yes yes... That's plastic, isn't it?

Certainly, Plastic is very harmful to planet earth. Reducing waste can also help reduce global warming.



*Solve the maze to reach the cloth bag.  
Remember, plastic bags are harmful and we have to avoid them!*





Also Golu, do you know that our friends at IISER Pune are also helping save earth by doing exciting things in their science labs?



Cool! I hope they save our Planet earth like superheroes!



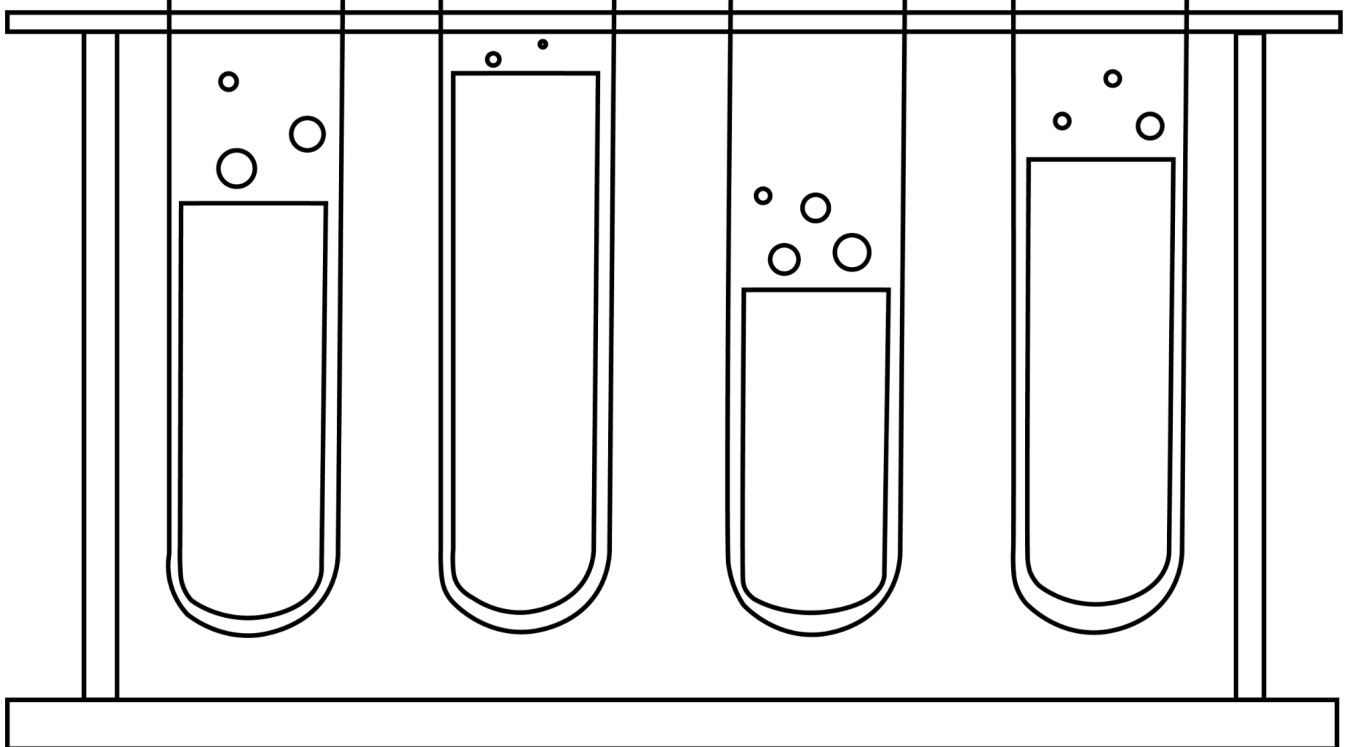
*Colour the test tubes used by the IISER Pune students based on what is written on the stopper.*

GREEN

BLUE

YELLOW

RED



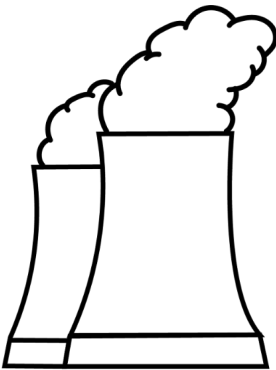
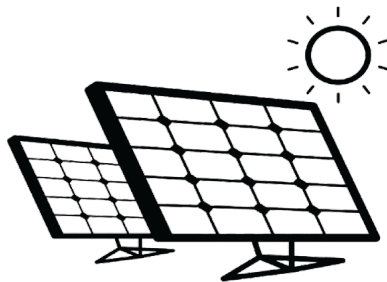
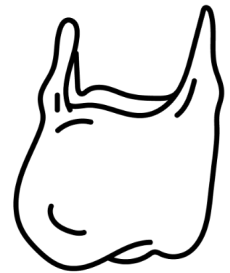
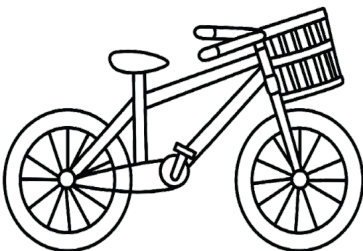
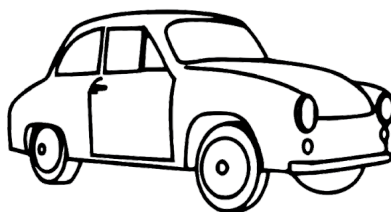
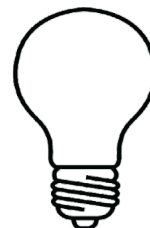
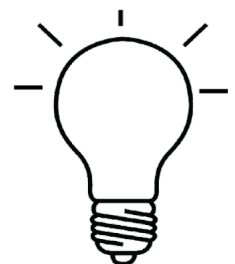
You seem to have learnt a lot of new things today!

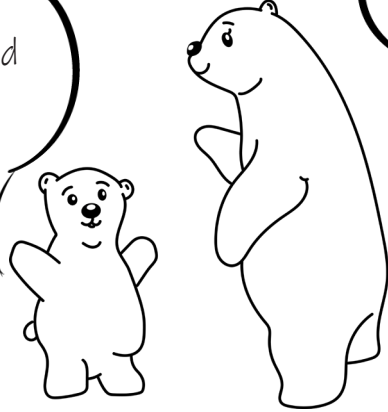




Yes Mommy! It was wonderful!



*Dear children, you have learned so much! Let's test your knowledge now.  
Tick the option that is better for planet earth!*


☐☐☐☐☐☐☐☐



Mommy, I hope  
the Earth remains  
beautiful forever, and  
all our friends help  
us in saving it from  
climate change.

Of course dear, if all  
of us do our part, the  
earth will indeed remain  
beautiful!

*Draw a picture of your dream earth in the blank space below.  
You could draw the ocean, a garden, mountains or whatever you like!*





Join Golu, the polar bear, on his way to learn about climate change and find a new home for himself and his mommy! Golu explores the strange world that humans have created to find out why his home is melting. Experience his journey in this Do It Yourself activity book full of fun adventures.



We are a group of students from IISER Pune, India, participating in a synthetic biology competition called iGEM. Our project involve synthesising industrially important metabolites from light and atmospheric CO<sub>2</sub> through synthetic biology to reduce carbon emissions in light of the ongoing climate crisis. As a part of our outreach initiative, we have created this activity book for children aged 4-8 years to explain climate change.



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