

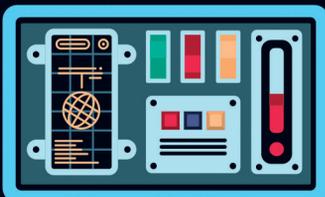
# 3

## Up into space

How can I design a vehicle for the future?



**1**  Look and think of questions about the photo. Then ask and answer with a partner.



2



Read the text. Then listen and answer.

## ★ UP INTO SPACE ★

Welcome to the space center. In space, there is no gravity. This is called *zero gravity* and this is why astronauts float. In the space center, you can experience zero gravity. You will float! There are handles so you can move around and a control panel which shows you important information about the space station.

3



What can you do in zero gravity?

Discuss with a partner.

exercise

get dressed

take a shower

drink from an open cup

eat soup

brush your teeth

We think it's impossible to take a shower.

Why?

4

Complete the code.

### CODE CRACKER



0	1	2	3	4
5	6	7	8	9

The code to enter the room is

7 \_\_\_\_\_

↑	→	→	↓	←	↑	←	←	←
---	---	---	---	---	---	---	---	---

# Lift off!

## VOCABULARY

I will learn words to describe a control panel.

1 Listen and number. Sing the song.

**Commander Sally Holms** is the captain of the spacecraft. She is going to leave **Earth** on a mission to another **planet**. She is checking the percentages on the **control panel** before lift-off.

### CONTROL PANEL

SONG TIME

## Commander Sally

Control panel on, check the **oxygen**.

Commander Sally, do you hear? Yes, I hear you loud and clear.

Computer on, check the **fuel**.

Commander Sally, do you hear? Yes, I hear you loud and clear.

**Radio** on, check the **lights**.

Commander Sally, do you hear? Yes, I hear you loud and clear.

**Screen** on, check the **gravity**.

Commander Sally, do you hear? Yes, I hear you loud and clear.

Take your **seat**. Hold the **handles** tight.

Fire all **engines**! Three, two, one!

Commander Sally, have a nice flight!



Commander Sally, do you hear?

Yes, I hear you loud and clear!

2 What does Commander Sally need for ...? Discuss with a partner.

breathing communicating  
controlling moving working

She needs the control panel for controlling the spacecraft.

**3** Match and color in the circles.

**MATH ZONE**

1/4 ●	● 75%	
1/2 ●	● 25%	
3/4 ●	● 100%	
4/4 ●	● 50%	

**4** Color the levels. Then ask and answer with a partner.

**MY CONTROL PANEL**

LIGHT

RADIO

OXYGEN

FUEL

What percentage is your fuel at?

It's at fifty percent.

**5** Make your own picture dictionary of a control panel with a color-coded key.

- fuel
- oxygen
- radio

**6** Listen and read. Check  the answer.

Commander Sally hears loud and clear.  
And off she goes for nearly a year.  
The planet isn't far, it's really near.  
So, where does she go?

Mars

Mercury

Jupiter

**7** Find and circle words with the same sound as **ear** in 6.

# Language lab

GRAMMAR: WILL AND WON'T

I will learn to talk about the future using will.

1 Watch the video.



We **will** live on a space colony.

We **won't** need fuel.

**Will** we recycle our waste?

Yes, we **will**.

No, we **won't**.

2 Read and number the pictures.

\_\_\_\_\_ floor

\_\_\_\_\_ floor

\_\_\_\_\_ floor

\_\_\_\_\_ floor

\_\_\_\_\_ floor

\_\_\_\_\_ floor

6TH FLOOR 6

5TH FLOOR 5

4TH FLOOR 4

3RD FLOOR 3

2ND FLOOR 2

1ST FLOOR 1

What do you think life will be like in the future?

I think in the future we will live in a space colony like this one. The colony will orbit Earth. We won't need fuel because we will get all our energy from the Sun. There will be six floors. We will grow food on the 6<sup>th</sup> floor because it will have the most sunlight. We will recycle all our waste on the 1<sup>st</sup> floor because it will be the darkest. We will live on the 3<sup>rd</sup> floor, but we won't live in houses. We will play on the 2<sup>nd</sup> floor and we will work on the 4<sup>th</sup> floor. We will do our shopping on the 5<sup>th</sup> floor.

**3**  Read and write four sentences. Discuss with a partner.

We will ...  
We won't ...

wear school uniforms.  
wear oxygen masks.  
use radios to talk to friends.  
have computer screens in our hands.  
have cars without engines.  
live on another planet.

We won't have cars without engines.

I don't agree.



Why?

Because we will have electric cars.

- 1 In the future, \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_

**4** Complete the lists.

**Classrooms in the future?**

There will be \_\_\_\_\_,  
\_\_\_\_\_, and \_\_\_\_\_.

There won't be \_\_\_\_\_,  
\_\_\_\_\_, or \_\_\_\_\_.

**Bedrooms in the future?**

There will be \_\_\_\_\_,  
\_\_\_\_\_, and \_\_\_\_\_.

There won't be \_\_\_\_\_,  
\_\_\_\_\_, or \_\_\_\_\_.

**5**  Play *Find your words*.



Will there be beds in the bedroom?

Yes, there will.



No, there won't. Will there be screens in the classroom?

I will read a story about a space colony.

**1**  Look at the pictures. Where do you think they are?

### COLONY 369

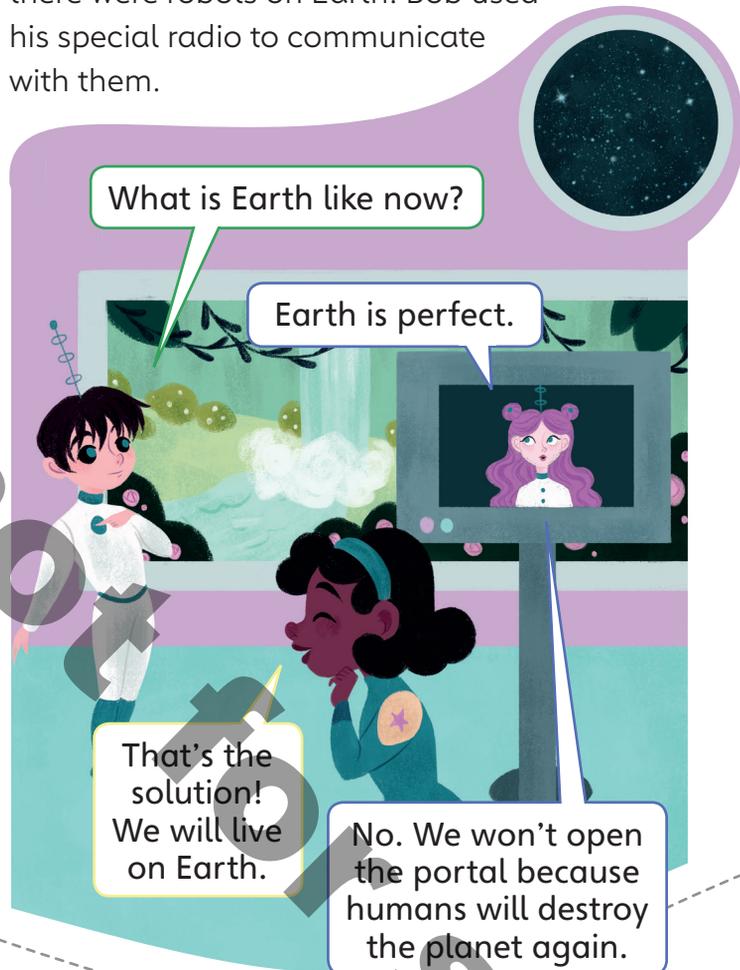
**1** Hundreds of years ago, Earth was very polluted. People went to live on space colonies. One day, there was a problem with the control panel on Colony 369.

Scientists worked day and night to find a solution, but nothing worked.



**2**  Read and listen.

**2** Nia wished humans could live on Earth again. Her robot friend, Bob, told her there were robots on Earth. Bob used his special radio to communicate with them.



**Values** Look after your world.

**3** Imagine you are Nia and complete.

We promise ...

we will \_\_\_\_\_.

we won't \_\_\_\_\_.

Signature: \_\_\_\_\_

**4**  Why do the Earth robots trust the children? Discuss with a partner.

**3** So Nia and Bob worked out a plan with the Earth robots. All the children went to a secret place. The Earth robots opened the special space door, but only for the children.



**4** Back on the colony, the adults were worried. Where were all the children? Then suddenly the screens came on.

Hello! This is Nia. We are on Earth. Will you promise that you won't pollute Earth ever again? Then we will open the space door.



**5** That night the people from Colony 369 returned to the beautiful Earth.



This is the best solution. We promise we won't pollute the land, air, or water. Thank you, children!

**5**  Number the sentences in order. Which sentences happen before the story begins?

- The Earth robots open the special door.
- Nia and Bob find a solution.
- Colony 369 only has oxygen for two years.
- People polluted Earth.

- The adults promise they won't pollute Earth.
- People moved to a space colony.
- The children arrive on Earth.
- The adults arrive on Earth.

**6**  Act out the story in groups.

# Experiment lab

SCIENCE: SOUND AND COMMUNICATION

I will learn how to make a telephone.

Sound is a type of energy that is made when things vibrate. For example, when we hear the engine of a car. We use sound to communicate with others over short and long distances.



**1** Check  the pictures that show sound being used.



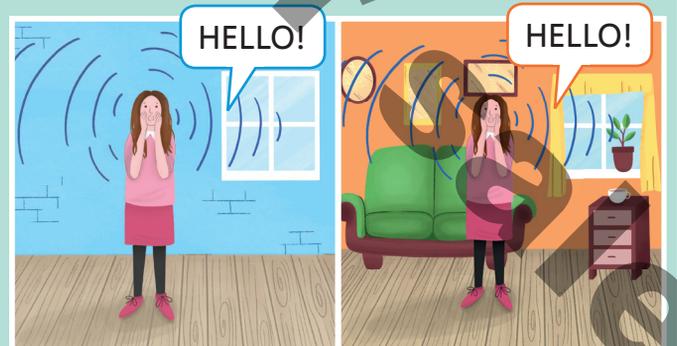
**2** Read, listen, and complete.

Sound travels in waves. Sound waves get quieter as they travel. That's why we hear sound **louder** when we are close to the **source**, and **quieter** when we are far away. Sound waves travel in all directions. They have to travel through something, like a gas, liquid, or solid that will vibrate, for example: air, water, or glass. They cannot travel in outer space because there isn't anything that will vibrate.



**3** Read, listen, and draw the echo.

When sound waves hit hard objects, they change direction and we hear an echo of the sound. If you stand in an empty room and shout, you will hear the echo. When sound waves hit soft objects, the sound waves stop and we don't hear an echo. We use soft materials to make sound quieter. For example, in music rooms or near busy streets.



sound waves echo

## 4 Read and look. Then spell a partner's name in Morse code.

Morse code is an old system for sending messages. It uses short and long sounds to spell words. Written Morse code uses dots for the short sounds and dashes for the long sounds.



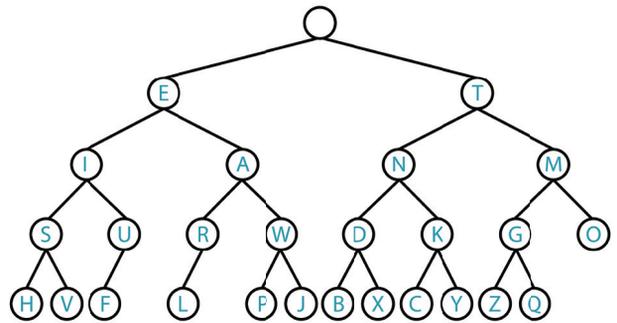
Dot dot dot ... dot dash ... dash dash.

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

## 5 Listen and write the word. Then play *Guess the word*.

### CODE CRACKER

The binary tree helps you learn Morse code. The left branches are dots and the right branches are dashes.



## EXPERIMENT TIME

### Can you make a telephone?

- 1 Make a hole in the bottom of each cup.
- 2 Tie one end of the 2 meter length of string to one of the paper clips. Put the other end in the hole so the paper clip is inside the cup.
- 3 Put the other end of the string in the hole in the other cup. Tie a paper clip on the end so that it is inside the other cup.
- 4 Give one cup to your friend and walk away until the string is tight. Talk normally into your cup and tell your friend to listen.
- 5 Test your telephone several times speaking louder and quieter each time.

### Materials

two plastic cups   
 a 2 meter length of string   
 2 metal paper clips 



1 What vibrates when you talk into the cup?

\_\_\_\_\_

2 What do the sound waves travel along?

\_\_\_\_\_

# Questions with *will*

## COMMUNICATION

I will ask and answer about the future using *will*.

### 1 Ask and answer with a partner.

**Warning!** Earth is polluted. We will move to a space colony soon. Everybody will work together to plan for our future.

Where will you live?  
What will you eat?  
When will you arrive?  
Who will you see?  
How will you live?

Who will the commander be?

Who will the navigator be?

Where will you go?

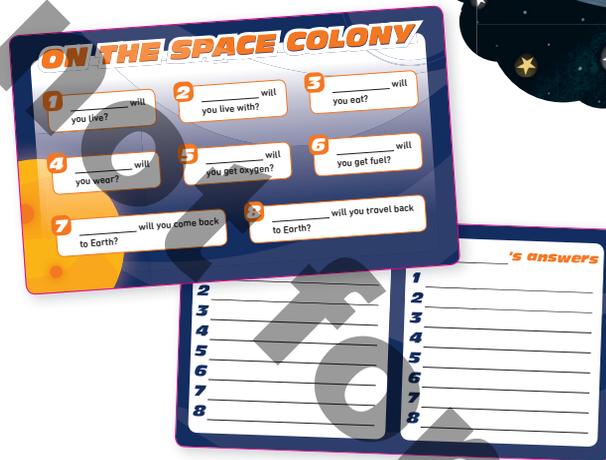
When will you go?

How will you get there?

What fuel will you use?

### 2 Discuss the future with a partner.

- 1 Press out the cards.
- 2 Complete the questions with *what*, *where*, *when*, *who*, and *how*.
- 3 Answer the questions for you.
- 4 Ask your partner and write their answers.



### 3 Explain your plans to your friends.



I will go to a space colony near Mars.  
I will live in a floating house.

How will you get inside your house?



# Writing lab

A BROCHURE

I will learn to write a brochure.

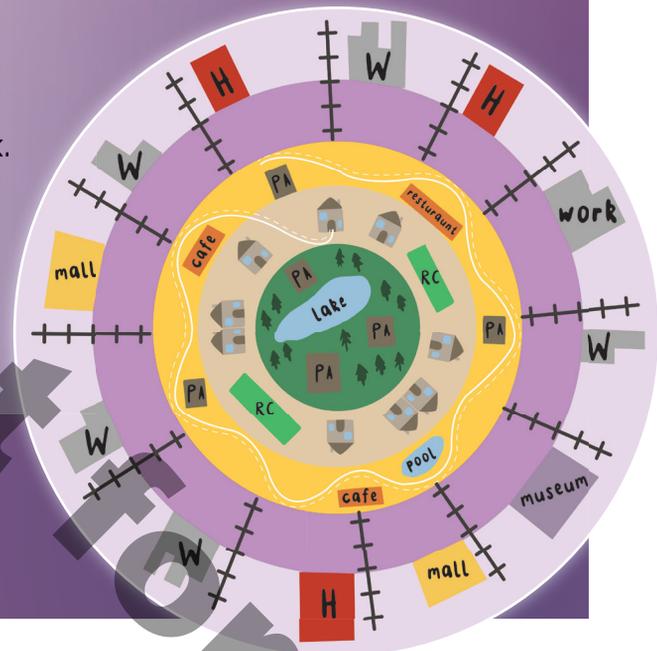
## 1 Read and number.

A paragraph is a group of sentences about one main idea or topic.

### WELCOME TO PAIDON CITY the city of the future!

- 1 = work places
- 2 = transportation
- 3 = schools
- 4 = outdoor places
- 5 = houses

- In the center of the city there will be a school in a big forest. All the children will walk to school.
- The houses will be small but beautiful. The houses will have gardens and spaces to leave bicycles.
- The park will have swimming pools, outdoor sports centers, and a special zero-gravity play area in the park.
- There won't be any traffic, noise, or pollution in Paidon City. People will take electric trains to work.
- There will be clean buildings for people to work in. Nearby, there will be shopping malls and hospitals.



Will you come and live in Paidon City?



Call **836-555-1116** to plan a visit.

## 2 Look at 1. How do we know it will be a healthy city? Underline the answers.

## 3 Imagine you are making a space city and complete.

Name of the city: \_\_\_\_\_

Outdoor places: \_\_\_\_\_

Work places: \_\_\_\_\_

Houses: \_\_\_\_\_

Transportation: \_\_\_\_\_

Schools: \_\_\_\_\_

Other places: \_\_\_\_\_

## 4 Make a brochure for your space city.

# PROJECT AND REVIEW

Design a vehicle for the future

## Step 1

### Research

 Find out about vehicles.

- Make a chart with how vehicles move.
- Add to the chart features that the vehicles have.
- Decide which features the vehicles will have in the future.

	Now	In the future
land	cars have wheels	no wheels
air	planes have wings	different types of wings
water	sailboats have sails	they will have balloons

## Step 2

### Plan

 Choose a vehicle and its features.

- Decide if your vehicle is for people, objects, or both.
- Think about how your vehicle will move and the features it needs.
- Complete the information for your vehicle.

Vehicle: \_\_\_\_\_

Features on the control panel: \_\_\_\_\_

Length: \_\_\_\_\_ cm

Weight: \_\_\_\_\_ kg

Fuel: \_\_\_\_\_

Top speed: \_\_\_\_\_ km per hour

Number of seats: \_\_\_\_\_

Number of lights: \_\_\_\_\_

Number of engines: \_\_\_\_\_

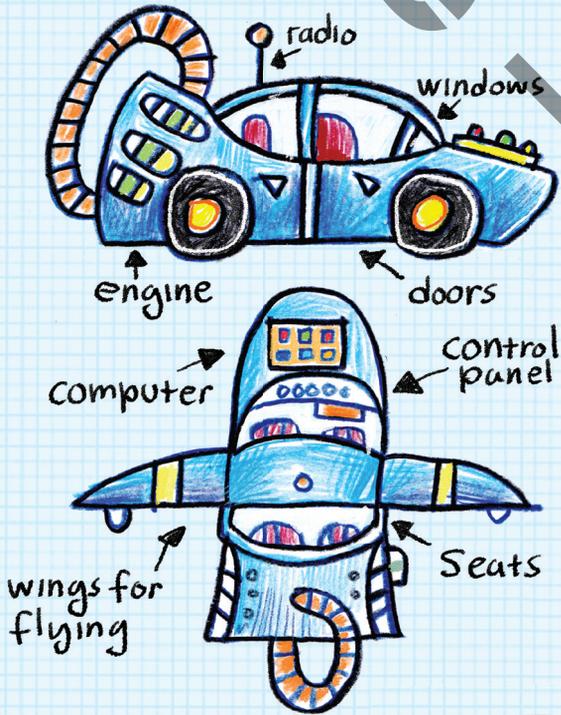
# Step 3

## Create

blueprint = plan

Make a blueprint.

- Draw your vehicle from the front, the back, and the side.
- Add the information.
- Think of a name for your vehicle.
- Think about what your vehicle will do.



+

Show your family your blueprint. Build your vehicle.

# Step 4

## Show and tell

Present your vehicle.

- Share your vehicle drawing.
- Discuss details of your vehicle.
- Ask for improvements or suggestions for your vehicle.
- Find friends who chose the same vehicle type as you.

The Amaxa is a new vehicle. It will fly and move on land. It will have a control panel.



It will use water for fuel. It will get the water from the air.

## Now I can ...

... describe space and the future.

... talk about the future using *will*.

... ask and answer about the future.

... write a brochure.