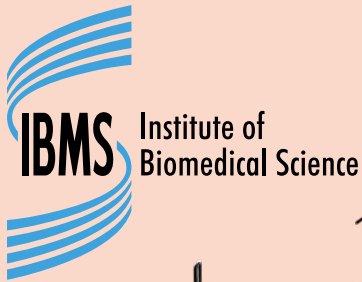


# SUPERLAB

Science at the heart of healthcare



SUPERLAB is a fun and educational comic for KS2 children about the wonders of biomedical science. This comic can be enjoyed by children alone, in the classroom or with the help of adults.

age 7-11

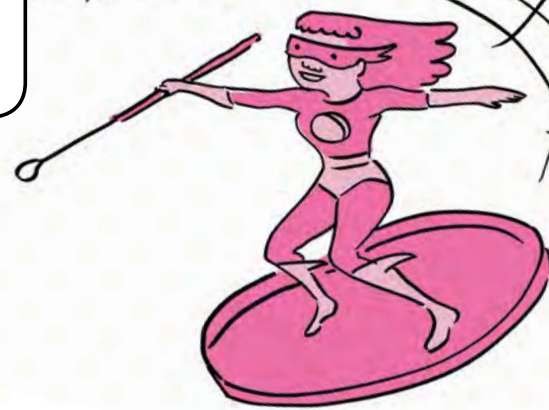
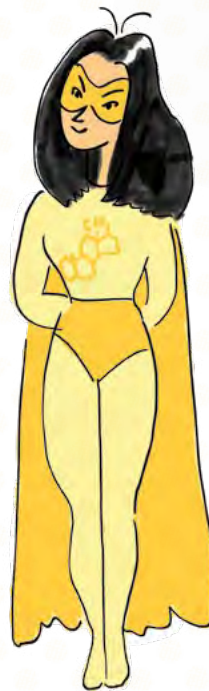
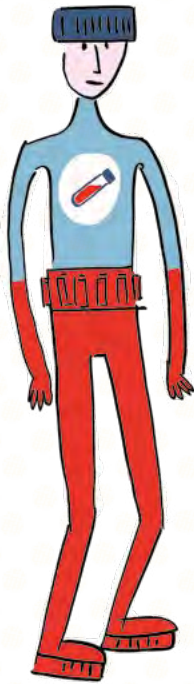
# Biomedical Superheroes!

We're all biomedical scientists who do medical tests in hospital superlabs

I'm **BUG RIDER** the **MICROBIOLOGIST** and I grow bacteria in wee and poo.

I'm **HAEMATOMAN** the **HAEMATOLOGIST** and I analyse blood samples.

I'm **CHEMIGIRL** the **CLINICAL CHEMIST** and I understand changes in blood and wee.



I'm **BLOOD BOY** the **TRANSFUSIONIST** and I make sure people get the right kind of blood when they need a transfusion.

I'm **HISTOQUEEN** the **HISTOLOGIST** and I look at tissue samples under a microscope.

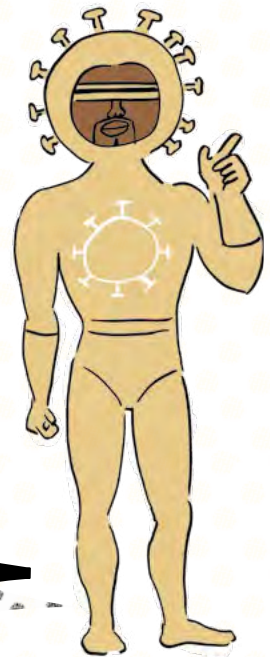
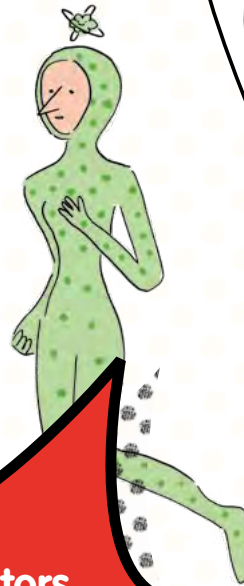
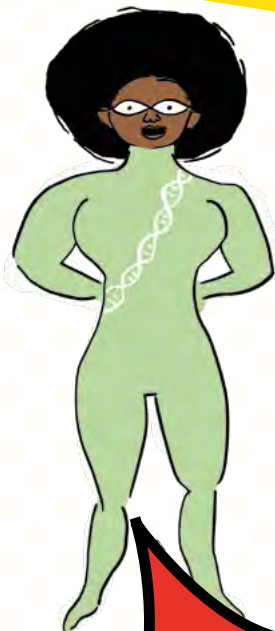


I'm **SPECIMAN** the **CYTOLOGIST** and I look for patterns in cells.

I'm **IMMUNA** the **IMMUNOLOGIST** and I understand your immune system.

I'm **SUPERGENE** the **GENETICIST** and I know all about genes.

I'm **CAPTAIN VIRUS** the **VIROLOGIST** and I know about viruses and viral infections.



We help doctors find out why people are unwell

We are the patient's samples that doctors send to the hospital. Follow us!



tissue sample



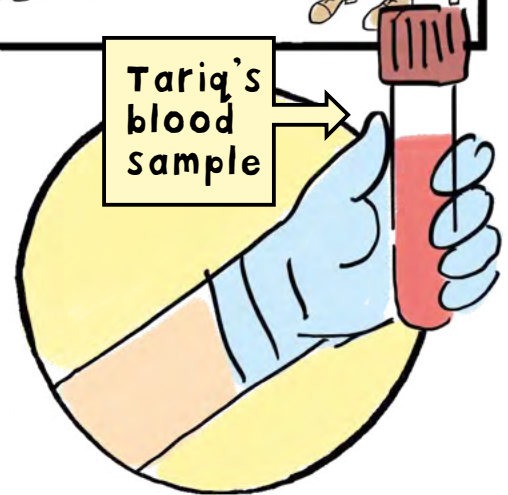
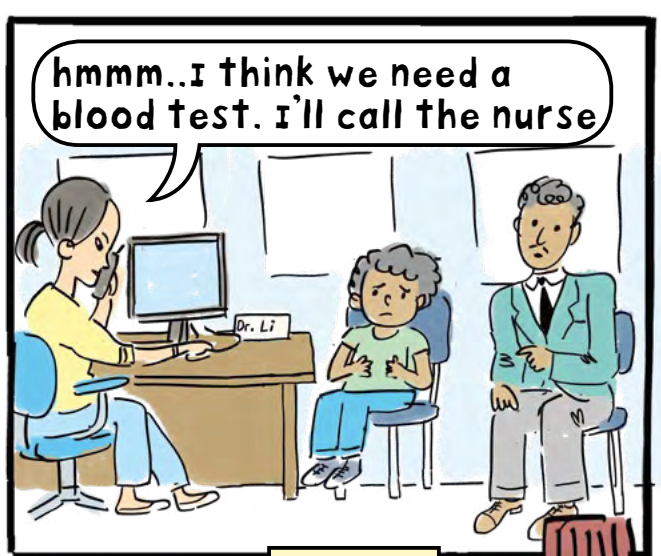
wee sample



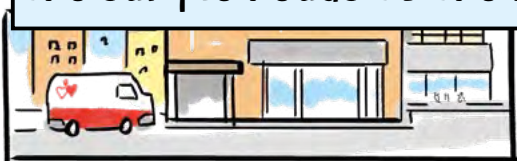
blood sample



# TARIQ'S STORY

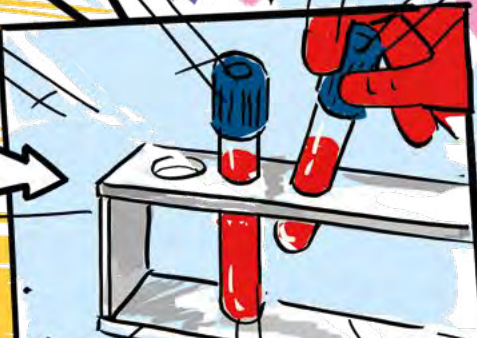


the sample heads to the hospital...

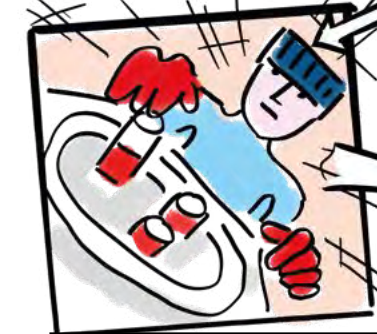




Haematoman performs a series of tests



All done!



The results are sent back to Dr Li's



Can I speak to Mr Singh?

Yes

ok Tariq we've just received the results and you've been prescribed some medicine

Tariq and his dad go to the chemist

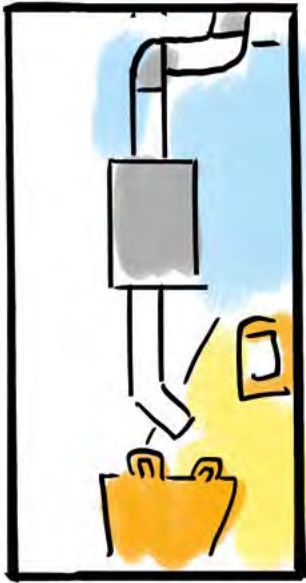


careful Tariq!

woaah!

A few weeks later - Tariq is fully recovered!

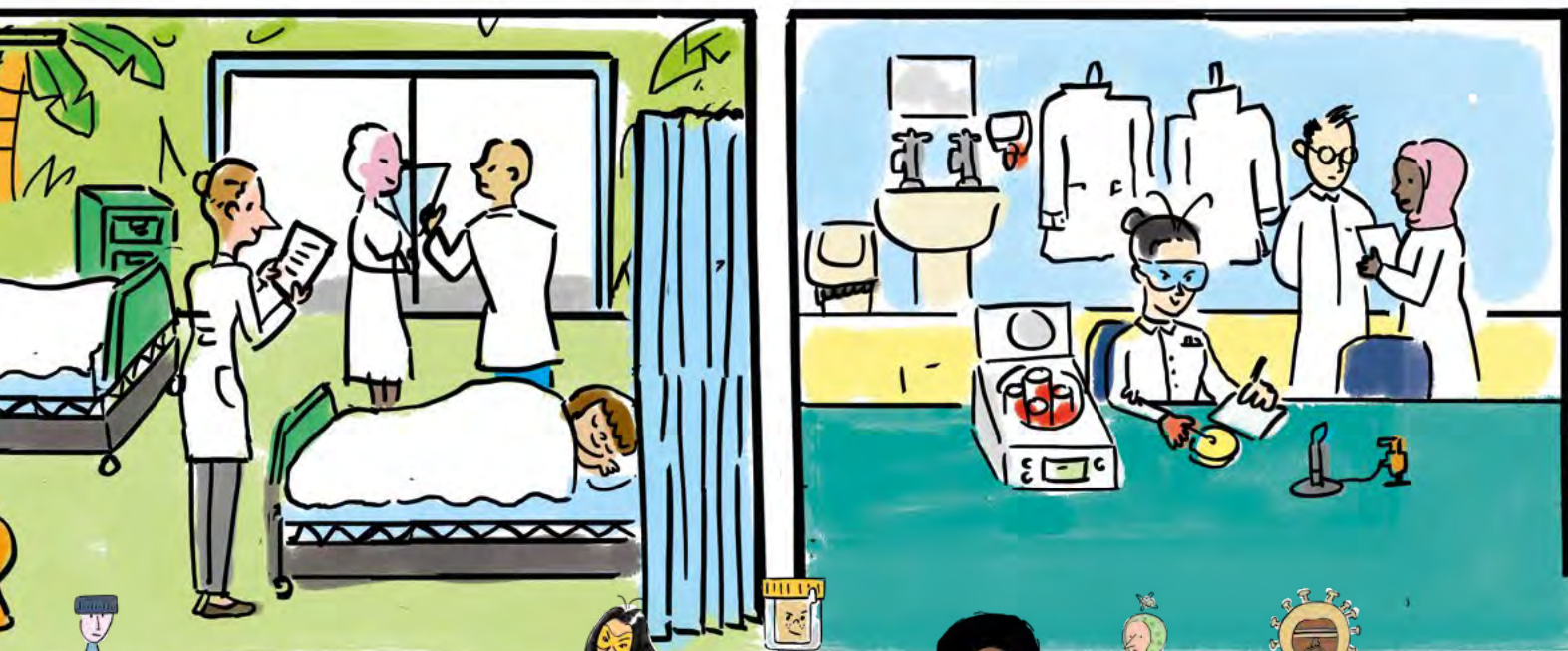
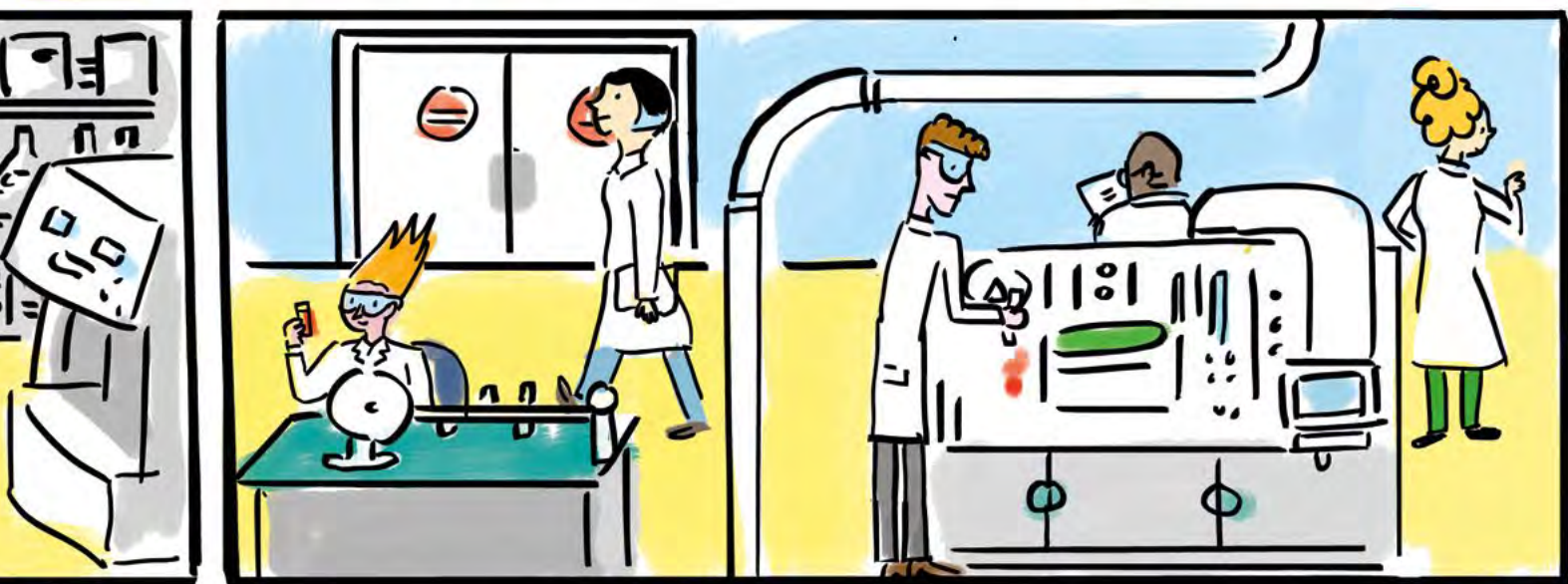
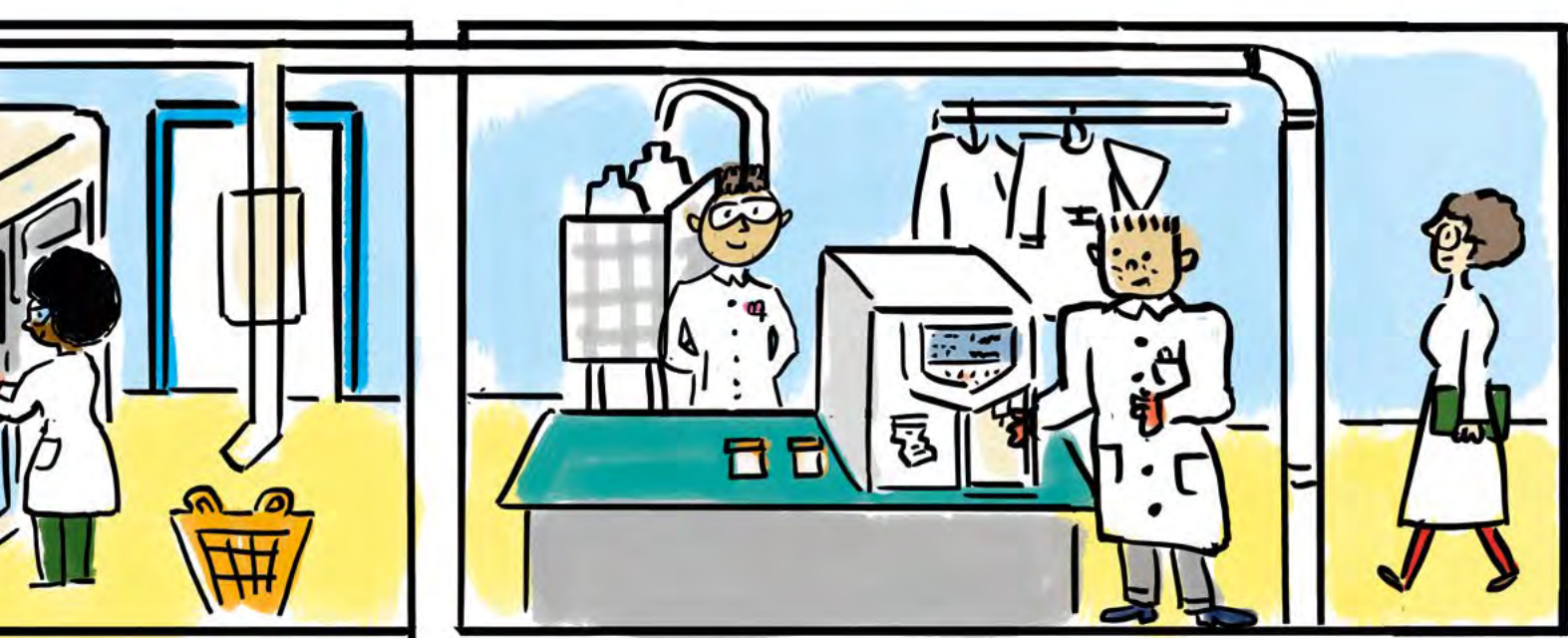




## Find us!

Lots of science is happening in the hospital, can you spot our superheroes as biomedical scientists?





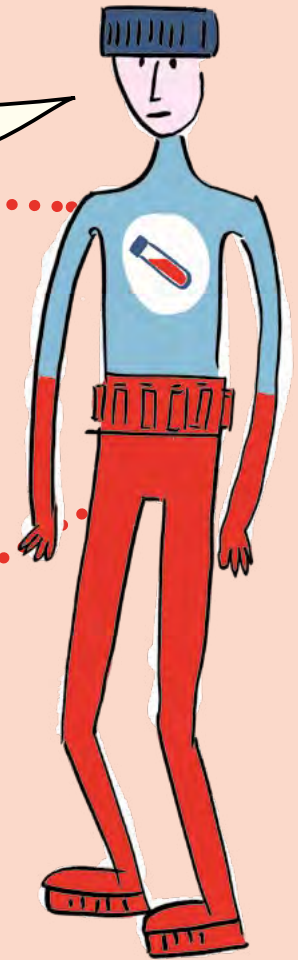


blood sample

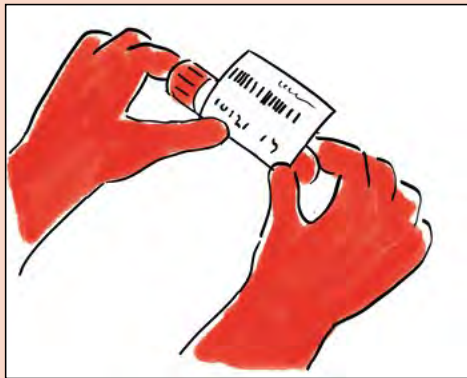


Welcome to my Superlab - the haematology lab!

We have just received a few blood samples, let's process them!

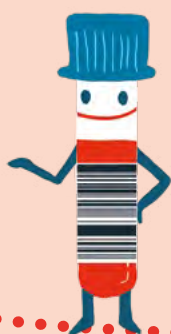


First let's stick a barcode on the samples to identify them and keep track



We don't want any mix-ups

I like my new stripy T-shirt!





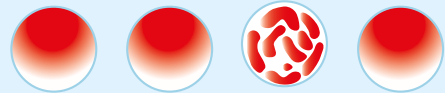
Let's find out the blood types



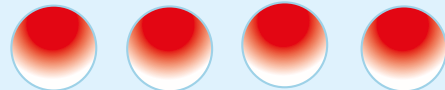
Use the blood type key to complete the blood test cards

### Blood type key

O+



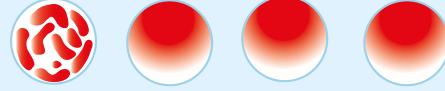
O-



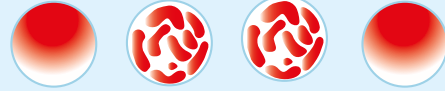
A+



A-



B+



B-



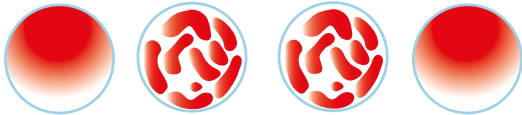
AB+



AB-



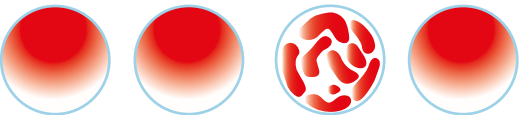
blood test card



Name:  
Sam Paul

Blood type:

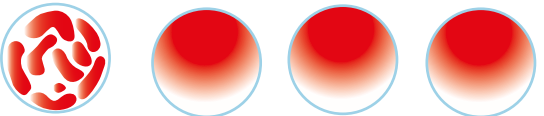
blood test card



Name:  
Mike Robe

Blood type:

blood test card



Name:  
Sir Clotalot

Blood type:

blood test card



Blood type:

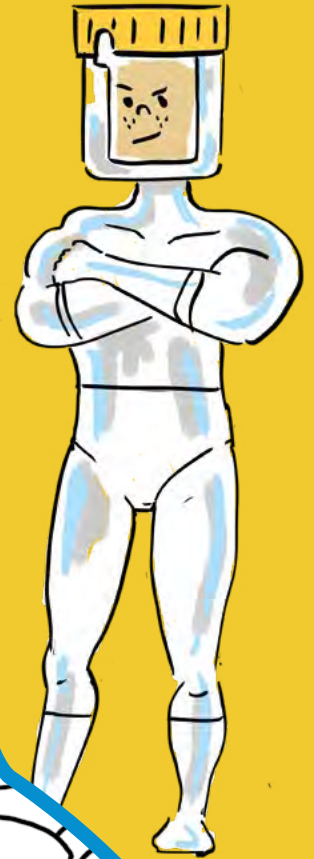
AB+

going for more tests

blood sample



Can you identify the different blood cells in this sample. Using the key below, colour in the different cells in the correct colour.



## Key

red blood cells



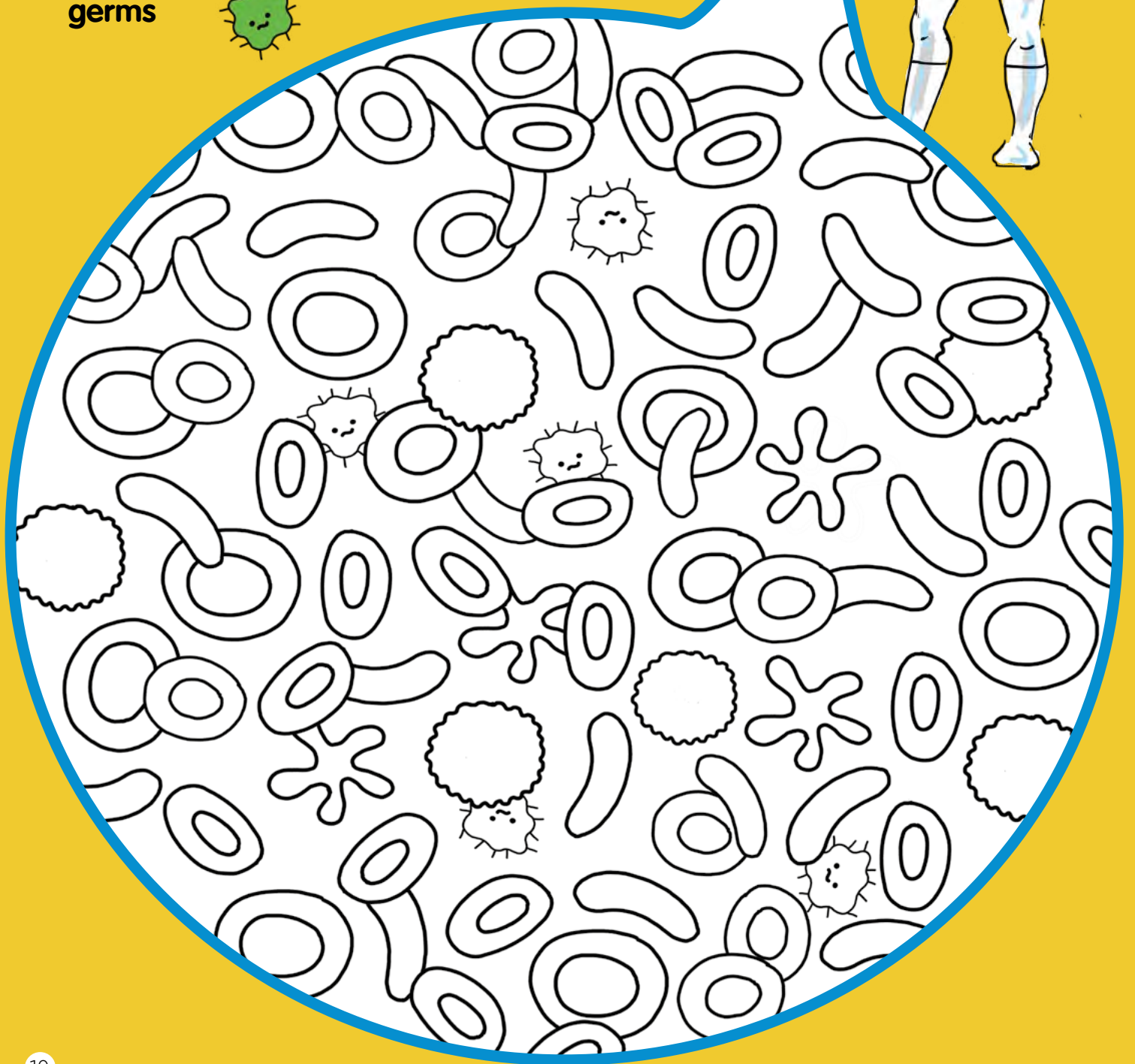
white blood cells



platelets



germs





# Make your own 'Test Your Sample' game

## Sample cards



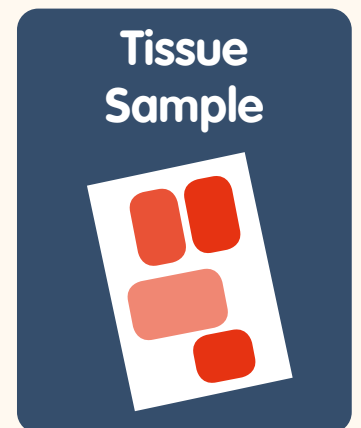
Microbiology lab



Blood lab

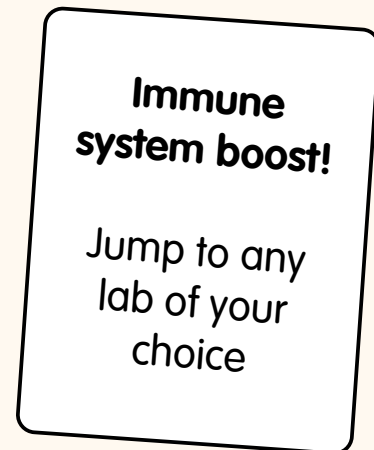
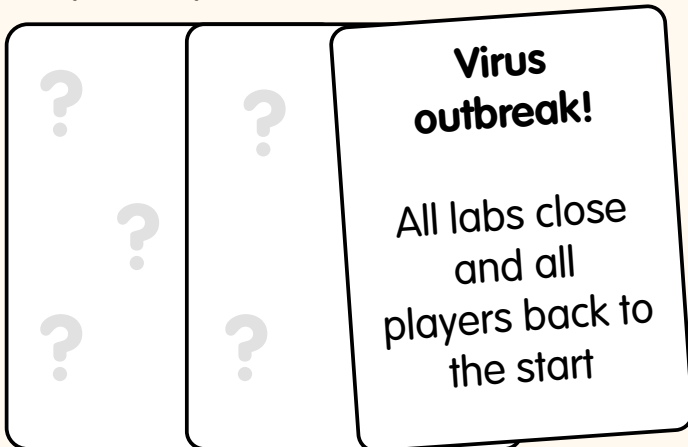


Gene lab



Cell lab

## Mystery cards



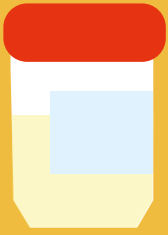
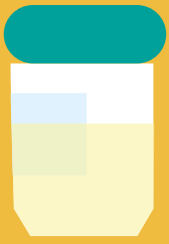
**You will need:** coloured paper, felt tip pens, scissors.

**Sample cards:** using the examples above as a guide make 3 of each kind so that you end up with 12 cards in total. The colour of the sample needs to match the correct lab.

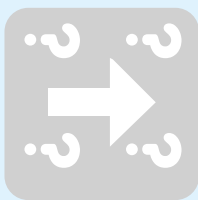
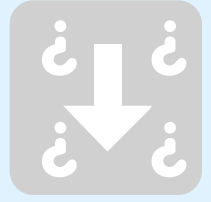
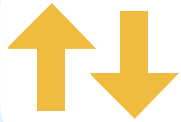
**Mystery cards:** on white paper draw question marks on one side and write an instruction on the other. This page has some examples of the type of instruction. Make 12 mystery cards and put them face down next to the game.

A full set can be downloaded from:  
[www.superlabscience.com](http://www.superlabscience.com)

# Microbiology lab

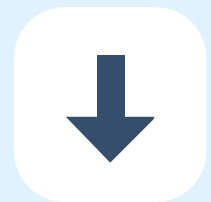


sample drop off

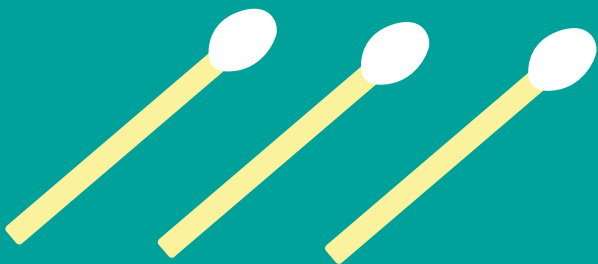


START

sample drop off

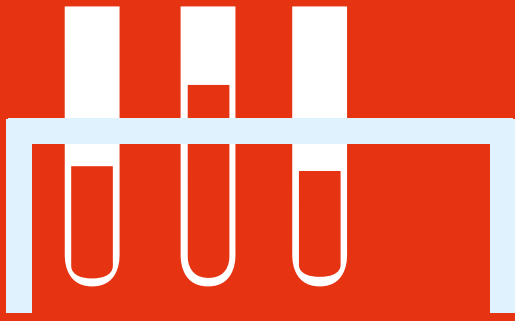


# Gene lab

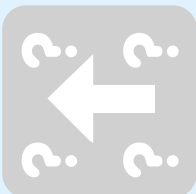




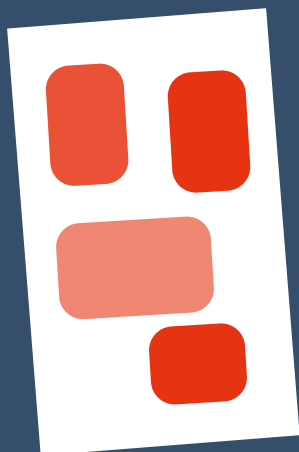
## Blood lab



sample  
drop off



sample  
drop off



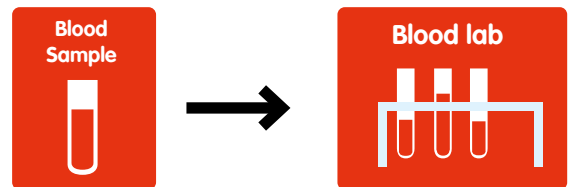
## Cell lab

## 'Test your sample' game

### 2-4 players

**You will need:** sample cards and mystery cards, counters and dice

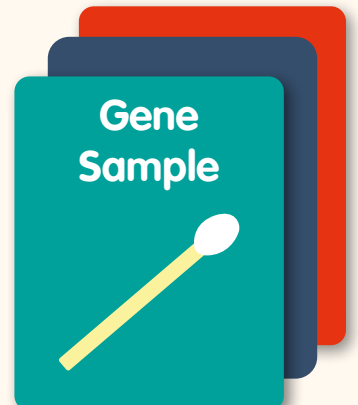
**How to play:** all players choose a colour and place your counters on the start. Deal the sample cards so each player has 3 cards. Take it in turns to roll the dice and move along the board in the direction of the arrows. Your mission is to drop off the samples on the drop off squares in the correct labs. For instance:



Only one sample can be deposited at a time. You do not need to roll the exact number to land on the drop off squares. If you land on a question mark you must select a mystery card from the pile and follow the instructions. The first person to drop off all their samples at the correct labs, wins!

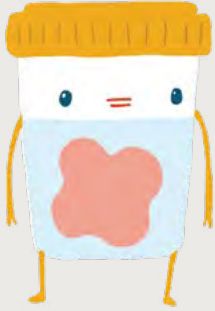


Mystery cards



Sample cards

tissue sample



Welcome to my lab!  
The histology lab.

We have just received  
a tissue sample!



Let's fix the sample and prepare it for observation!



tissue



fix



dehydrate



embed  
in wax



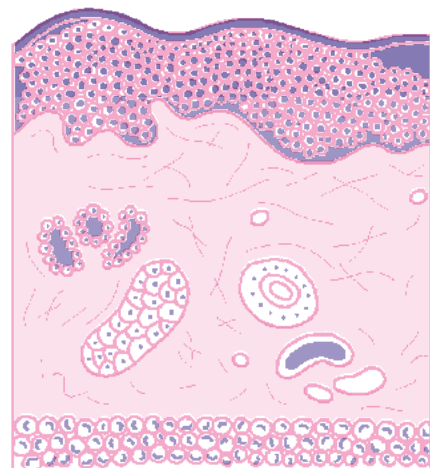
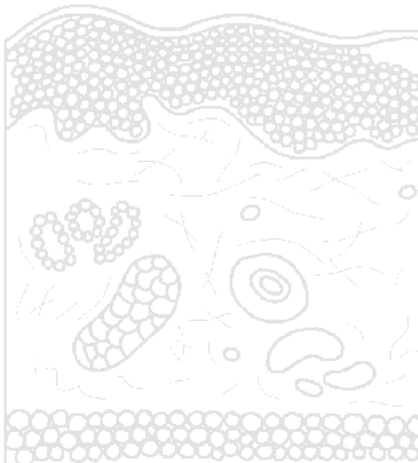
slice



a thin layer is put under the  
microscope for analysis



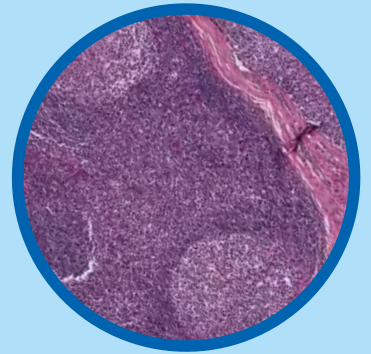
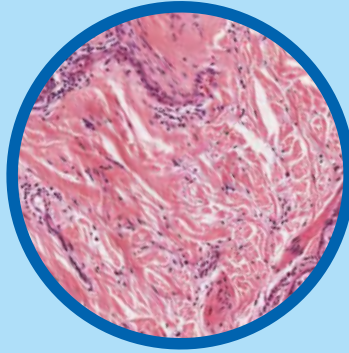
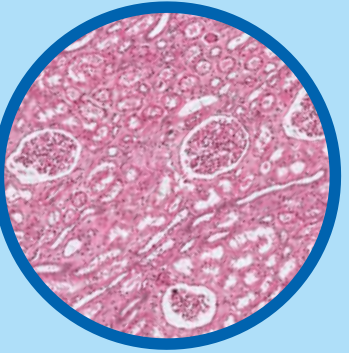
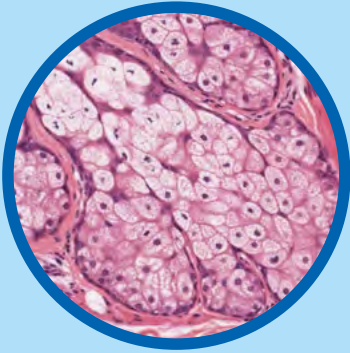
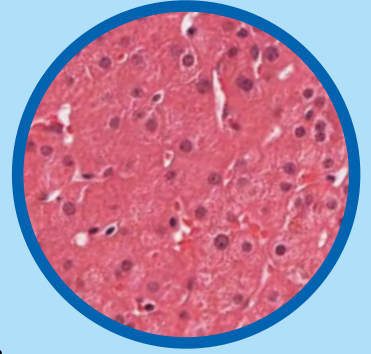
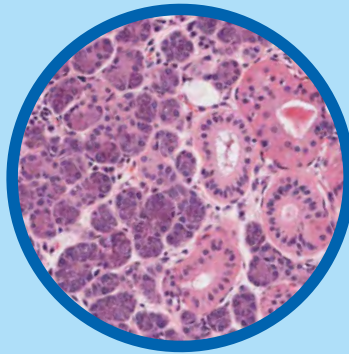
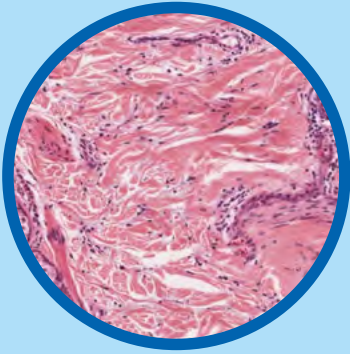
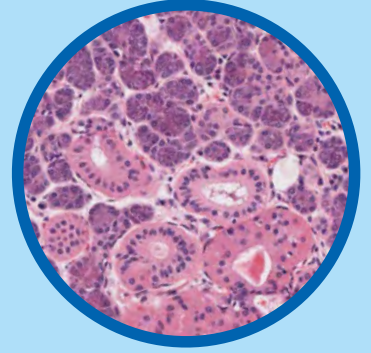
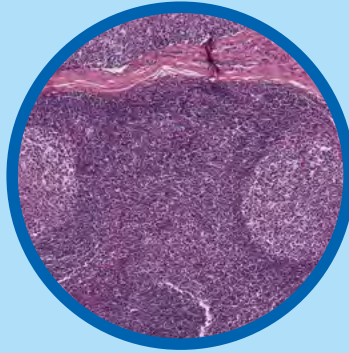
Dyes are used to contrast the structures of the cells so they can be recognised - *colour the slide*





Let's have a closer look

Sort out the slides below into matching pairs

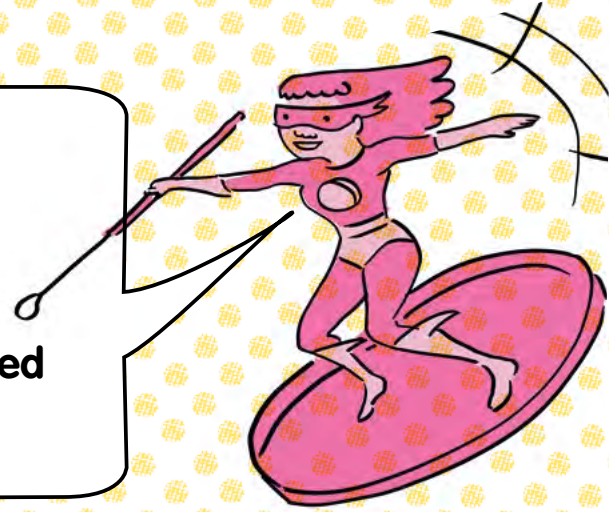




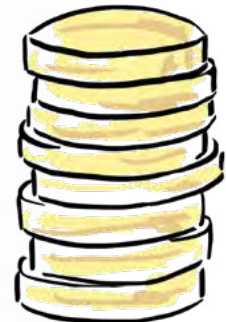
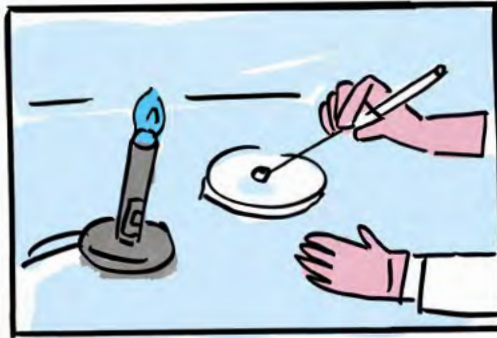
wee sample



**Bug Rider to the rescue!**  
**Welcome to the microbiology lab.**  
**We have just received a wee sample!**



**Let's check this wee sample and see if we have any bacteria growing ...**



Bug Rider sterilises the metal loop with a Bunsen burner and inoculates the Petri dish with the sample



## Germ Sudoku

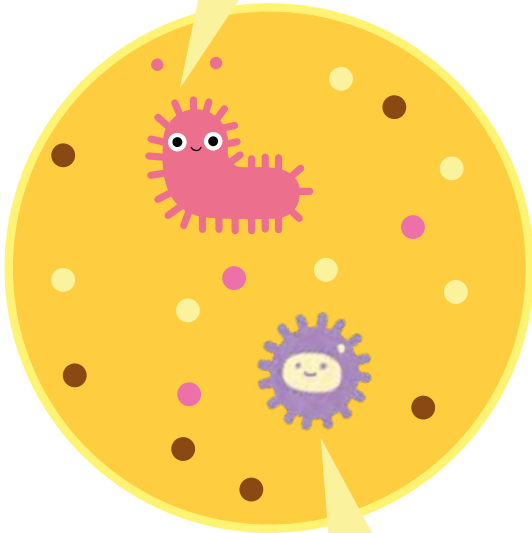
Complete the grid to have one of each germ in each column or row

While we wait for the bacteria to grow let's do a germ sudoku




# Funny fever!

Why did the bacteria cross the microscope?



To get to the other slide

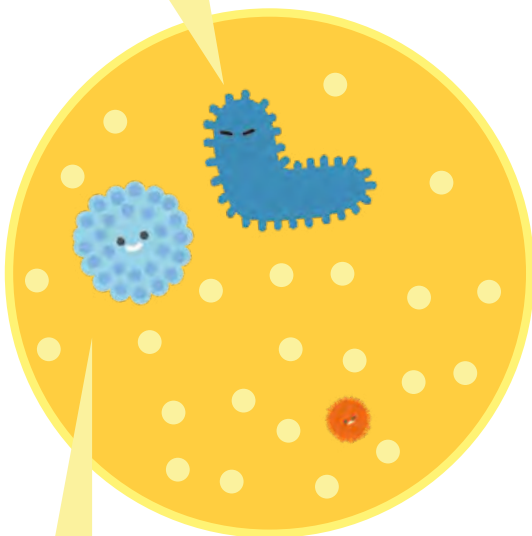
Hey, why are the viruses all gone?



Because they "FLU" AWAY

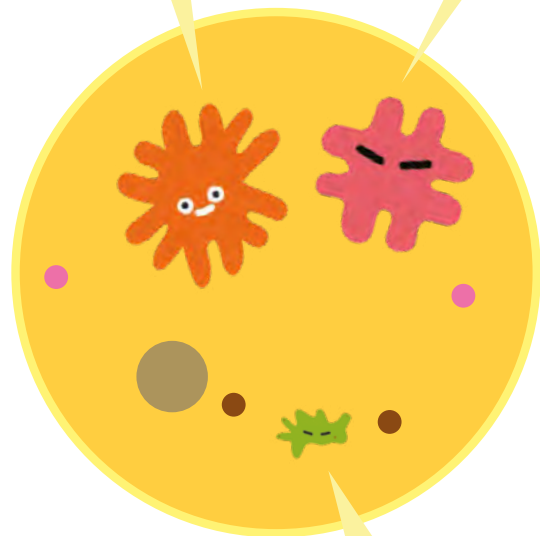
LOL

Tell me the one about the germ



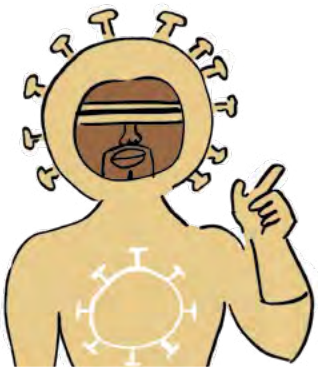
I can't. I don't want to spread it around

The food is great here

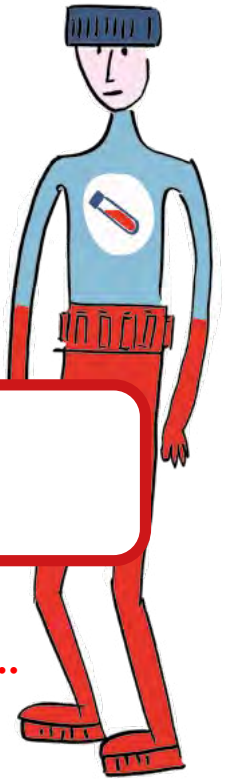


Where's the loo?

It's at the back-teria!



# Create your own Superhero scientist!



**My Superhero power is...**

**My Superhero works in the**

**My Superhero's special tool is....  
(bunsen burner, petri dish, syringe,  
test tube)**

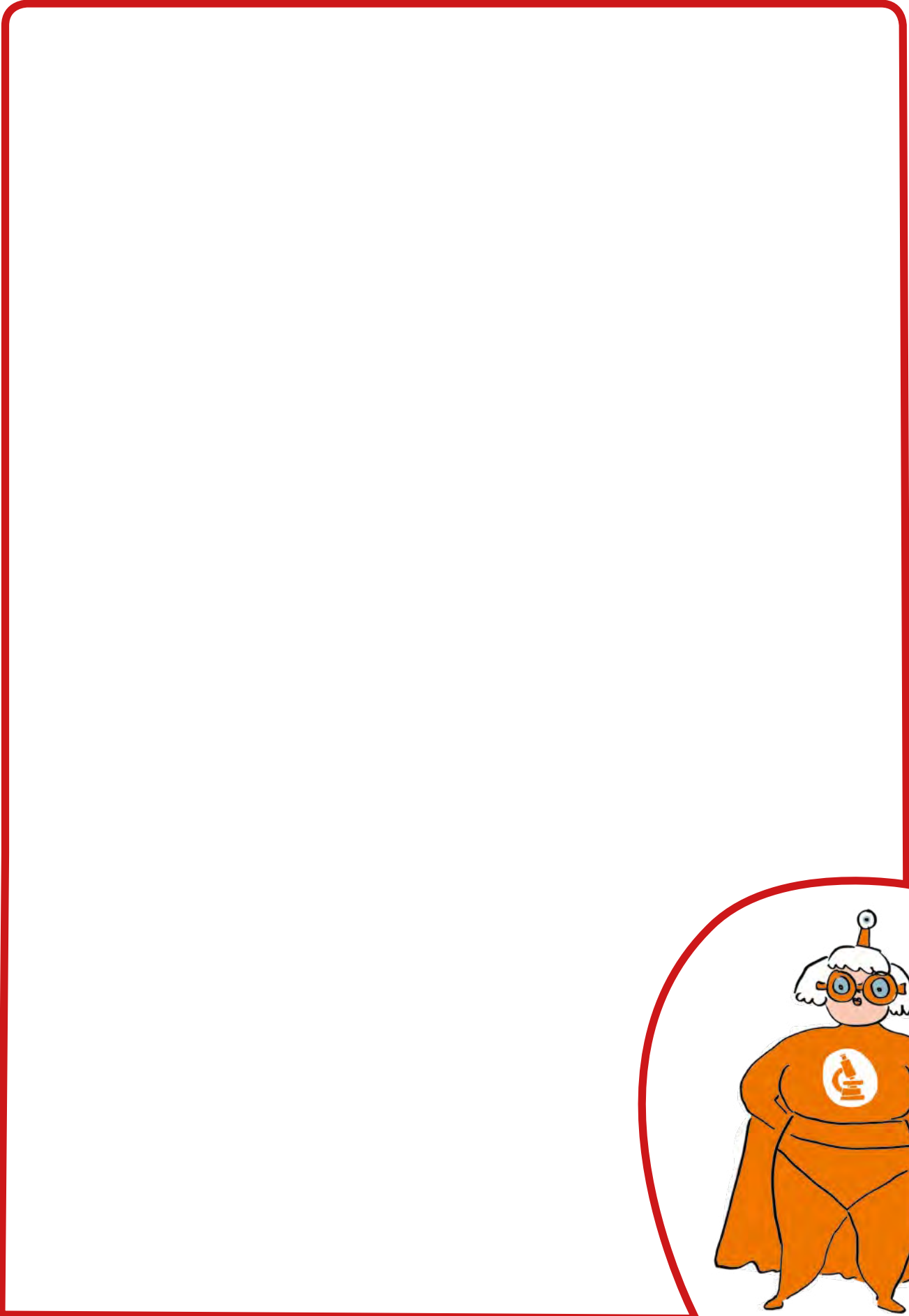
**My Superhero's name is....**

**My Superhero outfit looks like....**





Draw your Superhero in their superlab





### **IBMS proudly sponsors Harvey's Gang**

Harvey's Gang gives young, long-term patients across the country the chance to become biomedical scientists for the day. Harvey's Gang members are given special lab coats so they can go into hospital laboratories and learn about their healthcare.

**[harveysgang.com](http://harveysgang.com)**