



# The life of a bean

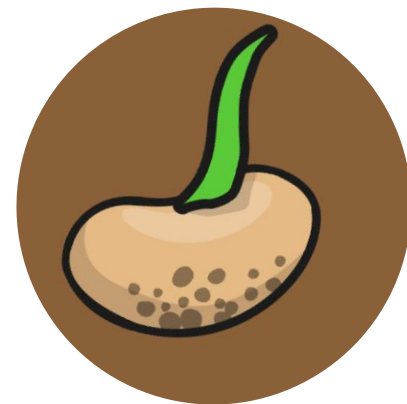
Investigating Germination

# First Stage

Amazingly, the bean can sense the environmental signals around it such as temperature, light, moisture and nutrients. If it is planted and has the right conditions, it will begin to germinate.

## Second Stage

Once germination has begun, a small shoot will begin to emerge from the bean. This is from the small embryo within the bean and it is still living off of the nutrients stored in the bean.



## Third Stage

Roots then begin to grow from the bean. This is important because it allows the bean to be absorbing the moisture and nutrients within the soil instead of just relying on the nutrients it has stored inside.



## Fourth Stage

With the bean now taking nutrients from the soil, it is strong enough for the sprout to break through the surface of the soil. During this time, the roots are continuing to grow and expand as they take in greater amounts of nutrients. The roots now also serve a second function. They help anchor the plant within the soil instead of it getting blown away by a small gust of wind.

## Fifth Stage



With the plant now growing taller and stronger, leaves begin to grow which play a very important part in keeping the plant alive. Leaves use the light from the sun to provide food for the plant through a process known as 'photosynthesis'.

Photo = light

synthesis = putting together

## Sixth Stage

Now that the plant has grown and is able to provide itself with nutrients, it begins to flower to attract pollinators that will pollinate the flower and allow it to produce and disperse seeds of its own.





## Task – approximate time: 60mins (spread this out over the week/ take breaks)

You need to produce a comic strip that shows the stages. It is to be done like a diary from the bean's point of view and can include speech bubbles and text boxes to explain what is happening. You can give your bean a name and a personality.

You can create it in your distance learning book by dividing the page into 6 sections. They do not have to be equal and you can have your page portrait or landscape.


Alternatively, you can use [bookcreator.com](https://bookcreator.com) to create an e-comic. See the next slides for details/examples of your task.



# Modelled Example (written)

## My simple life : Diary of a bean

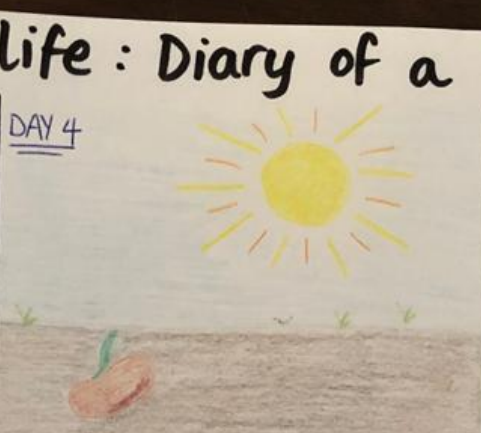
DAY 1



It's so dark down here!

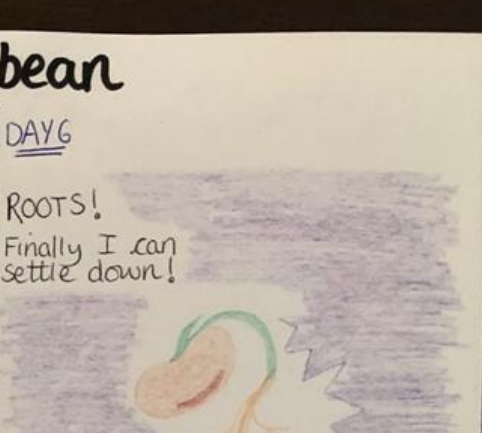
After a jolly good soaking in his newly composted home, Jack begins to germinate.

DAY 4



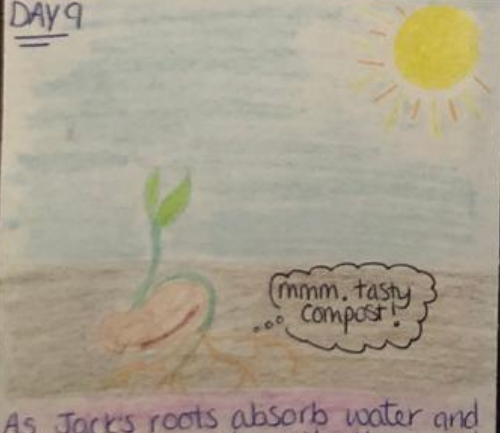
A shoot emerges after a few days, followed by...

DAY 6



ROOTS!  
Finally I can settle down!

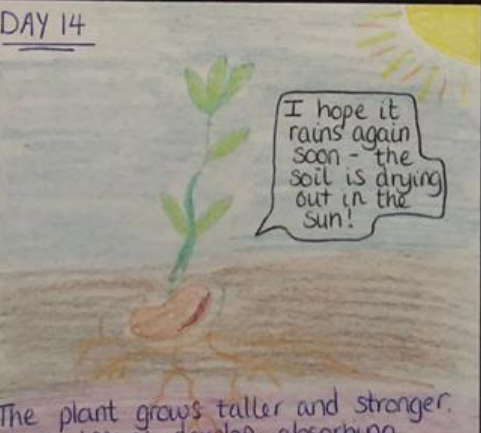
DAY 9



mmm. tasty compost!

As Jack's roots absorb water and nutrients from the soil, the sprout becomes stronger and breaks through to the surface.

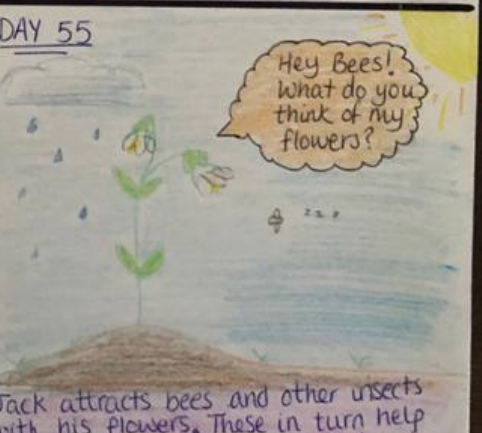
DAY 14



I hope it rains again soon - the soil is drying out in the sun!

The plant grows taller and stronger. More leaves develop, absorbing light to produce energy in a process called PHOTOSYNTHESIS.

DAY 55



Hey Bees! What do you think of my flowers?

Jack attracts bees and other insects with his flowers. These in turn help to pollinate, leading to a fruit and seed.

**By A. Bean, 5B**

## Modelled Example (online)

- You will need an email address to sign in (use your parent's, as it is just to access the e-library)
- Go to [bookcreator.com](http://bookcreator.com) and use the class code

5C	5M	5P
65ZVN6N	65BKJR8	655ZKTG

- When you have accessed the library, create a new comic. Change the name and title of your book, so it is easy for your teacher to identify your work.

See the next slide for an example

# THE JOURNEY OF A SEED

After being thrown in the soil, the seed is watered and begins to germinate



OOH LOOK, MY ROOTS ARE BEGINNING TO SHOW!

THE SHOOT BREAKS THROUGH THE SURFACE AFTER ABOUT A WEEK.



AS THE ROOTS DEVELOP THE STALK GETS STRONGER AND LEAVES GROW.



I HOPE THE BEES AND INSECTS POLLINATE THESE FLOWERS SOON.

FLOWERS EMERGE AND THE PLANT IS READY TO REPRODUCE.



# Once completed, answer the following questions:

1. The root emerges from the bean before the shoot. True or false?
2. Where does the bean get its nutrients from before the roots begin to grow?
3. What word has been mixed up?

**H S T H S E N T P O S I Y O**

4. What does this word mean?
5. Flowers are important to plants. Explain why.
6. What are three of the environmental signals that tell a bean/seed to begin germinating?