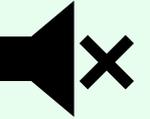


Title: Variation and Evolution

06/11/2020

Do-now:

1. Complete the Punnet square on whiteboards.
What % of the offspring would have **spotted** fur?



	D	d
D		
d		

DD and Dd = spotted
dd = plain



Lesson Title

Variation and Evolution

06/11/2020

Learning Intent

Understand the process of evolution and the role of variation

Success Criteria



State how variation arises

3



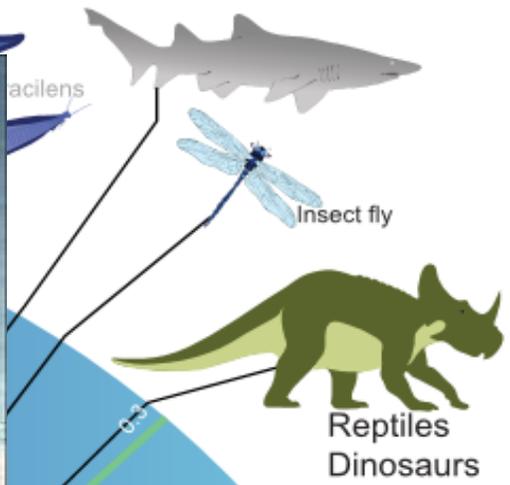
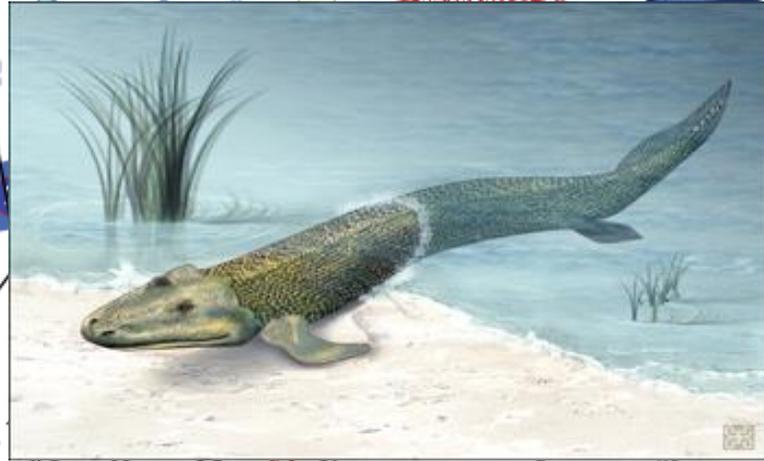
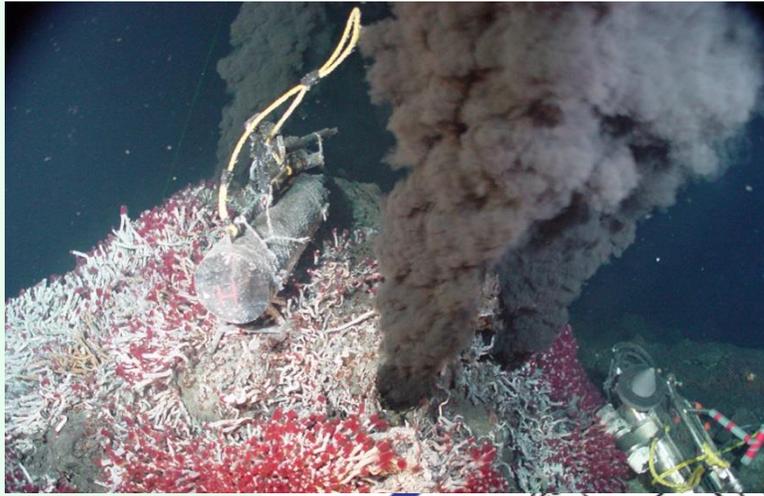
Describe the process of evolution

4



Apply your understanding of evolution to different examples

5-6

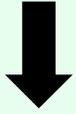


Billion years ago

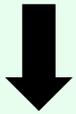
Theory of Natural Selection:
All species evolved from
simple life forms more than
3 billion years ago!



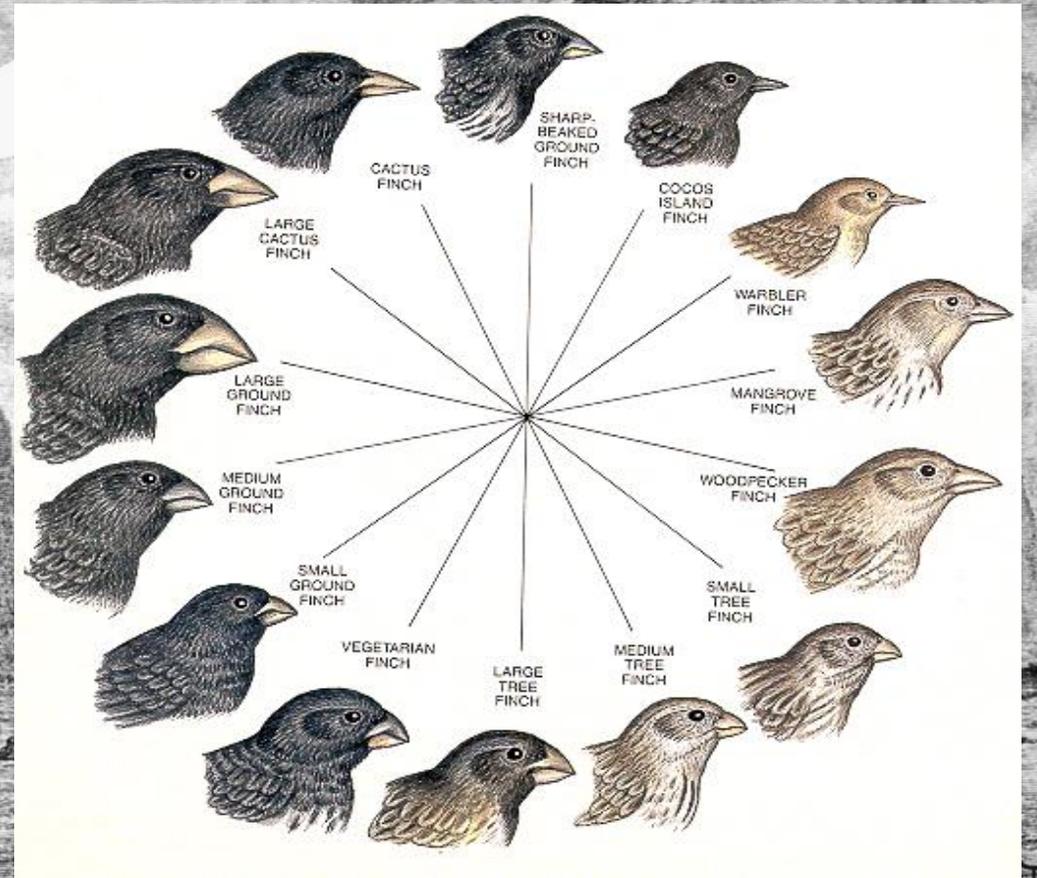
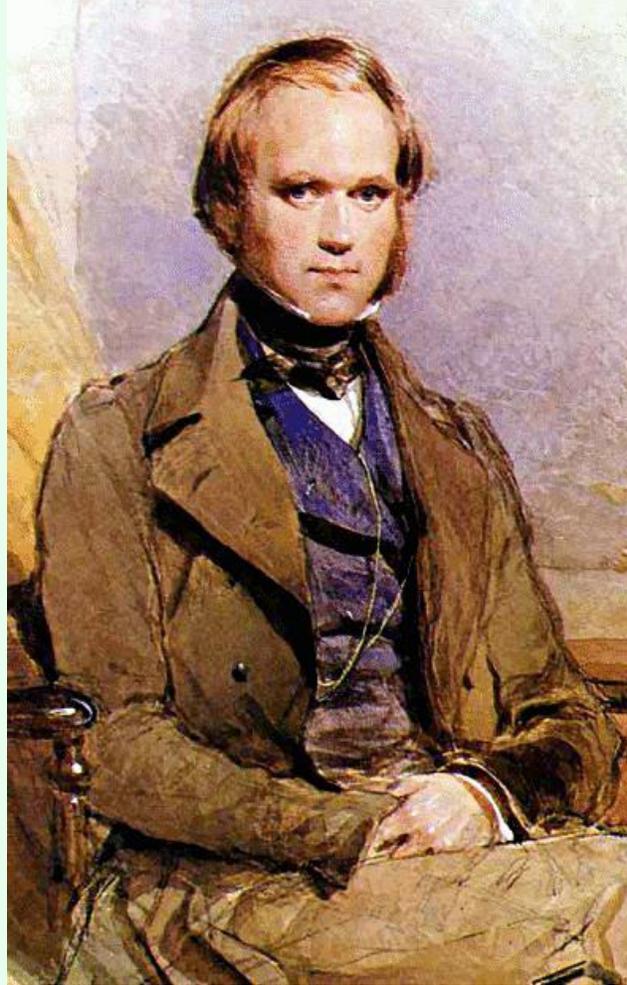
Variation in
beak shape
and size



Those that ate
seeds had
abundant food,
survived



Able to
reproduce and
pass on
advantageous
genes



Charles Darwin and the HMS Beagle 1832-1836

Survival of the fittest!

L2: Describe the process of evolution

Friday, 06 November 2020

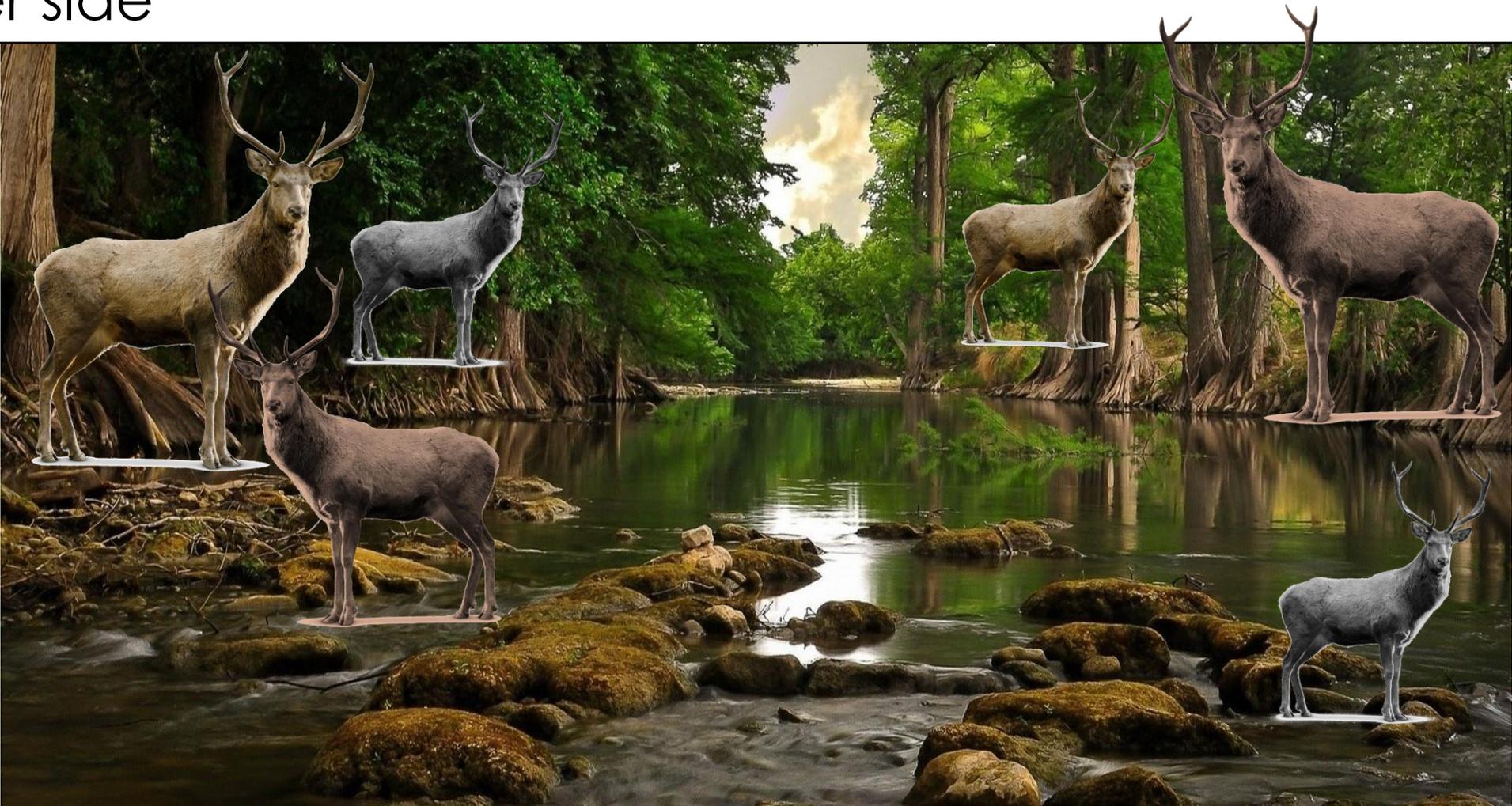
They all have the same niche, but there's still some **variation** between the members



L2: Describe the process of evolution

Friday, 06 November 2020

Plate tectonics cause a rift to occur in the forest, and a large river forms that is too deep or fast to cross. Half of the species are now on the other side



L2: Describe the process of evolution

Friday, 06 November 2020

Each side now has a **different niche**, so a different **variation** is more **useful**. Surroundings on the left are darker and individuals are better **camouflaged** from predators.

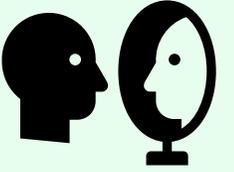


L2: Describe the process of evolution

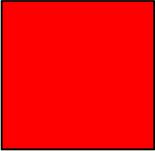
Friday, 06 November 2020

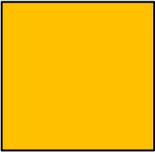
Over a long period of time (thousands of years), those better adapted to the surroundings **survive** and **reproduce** more passing these **genes** to their offspring. This is called **evolution**.





Which of these is correct?

 Variation → Environmental change → Reproduction
→ Survival

 Variation → Environmental change → Survival →
Reproduction

 Variation → Survival → Environmental change →
Reproduction

L2/3: Describe the process of evolution, apply to different scenarios

Practice with aid

Pair Whisper



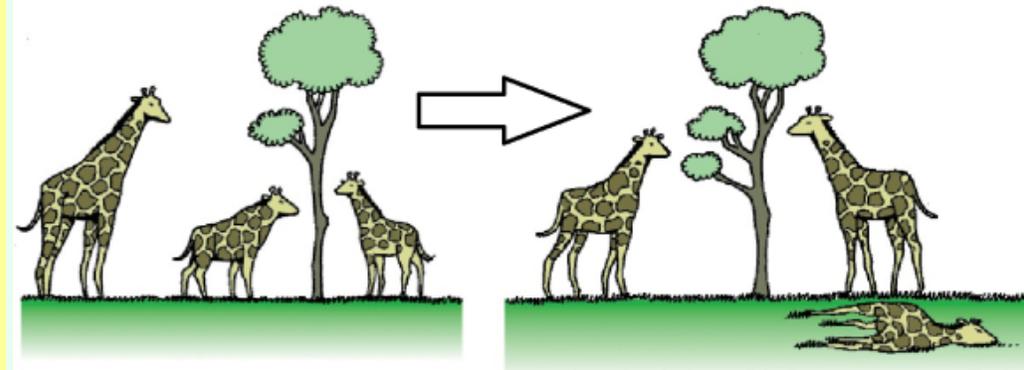
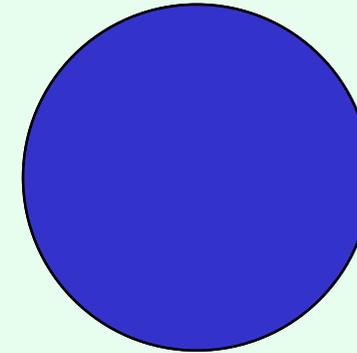
Task:

1. Fill in the gaps using these key words:

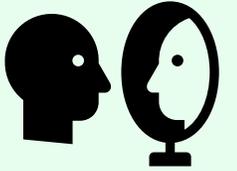
**environmental change, increase,
genes, mutations, reproduce,
generation, individuals, variation,
survive, selection pressure,
evolution, survive,**

2. Complete the worksheet for different examples.

15 minutes

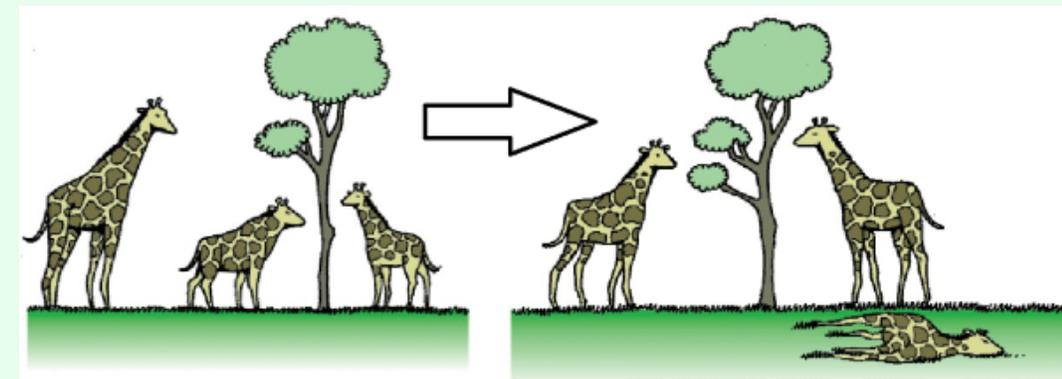
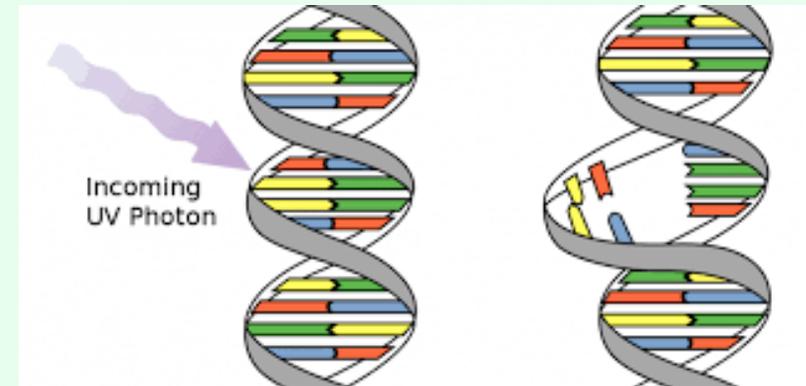
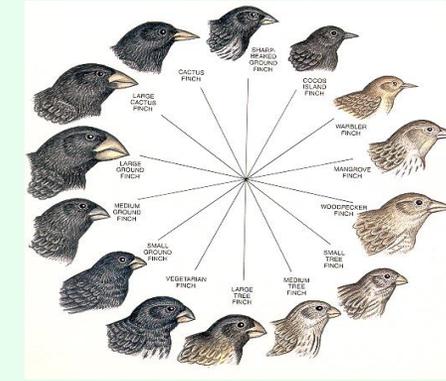


Reflection and Reteach

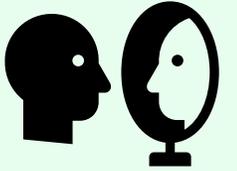


PA
/12

In any population there is always variation, this is caused by Genetic mutation in the DNA. Some of these mutations will help the organism survive for longer in their habitat and will reproduce more. If there is a Selection pressure, like predation, mating, disease or Environmental change, the individuals with these adaptations would survive and pass these advantageous genes onto the next generation, which will also be better adapted. Over time, the number of individuals with the advantageous genes will increase. This is called evolution.



L2/3: Describe the process of evolution, apply to different scenarios



PA
/12

natural variation in amount of body hair;
 in cold environment, (having genes) which produce long
 hair is an advantage;
 because hair insulates; OWTTE
 such animals more likely to survive;
 and pass these genes onto succeeding generations
each for 1 mark

[5] e, the

there is
variation,
 some giraffes have
short necks,
 while others have
long necks.

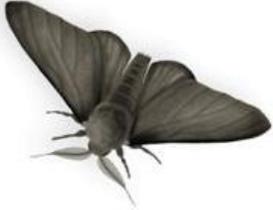
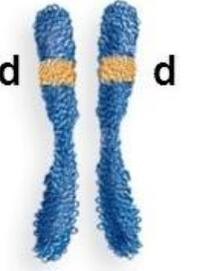
long necks are able
 to reach the food and able
 to Eat/survive more.
 Short necked individuals
die and are
 unable to pass on their
genes.

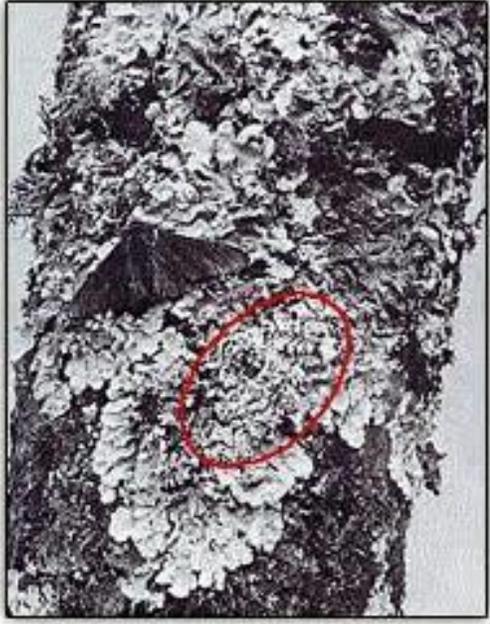
gene for
long neck
 will increase in
frequency,
 resulting in
evolution.

L3: Explain the process of evolution for different examples



Independent
Whisper

Phenotype:			
Genotype:	DD homozygous	Dd heterozygous	dd homozygous
Alleles:			



Due to a **selection pressure** different **alleles** may be selected for and can **change in frequency** in a population.

L3: Explain the process of evolution for different examples

Application of learning



Independent
Whisper



How is this providing evidence of natural selection?