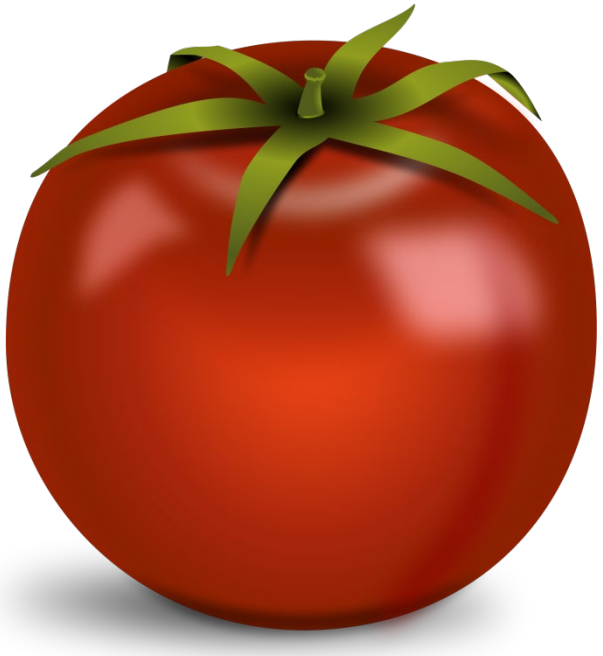
Tomatoes

Genetic Diversity

Are all tomatoes created the same

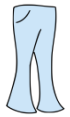
- What does a tomato look like?
- Are they all the same?



Variability in traits

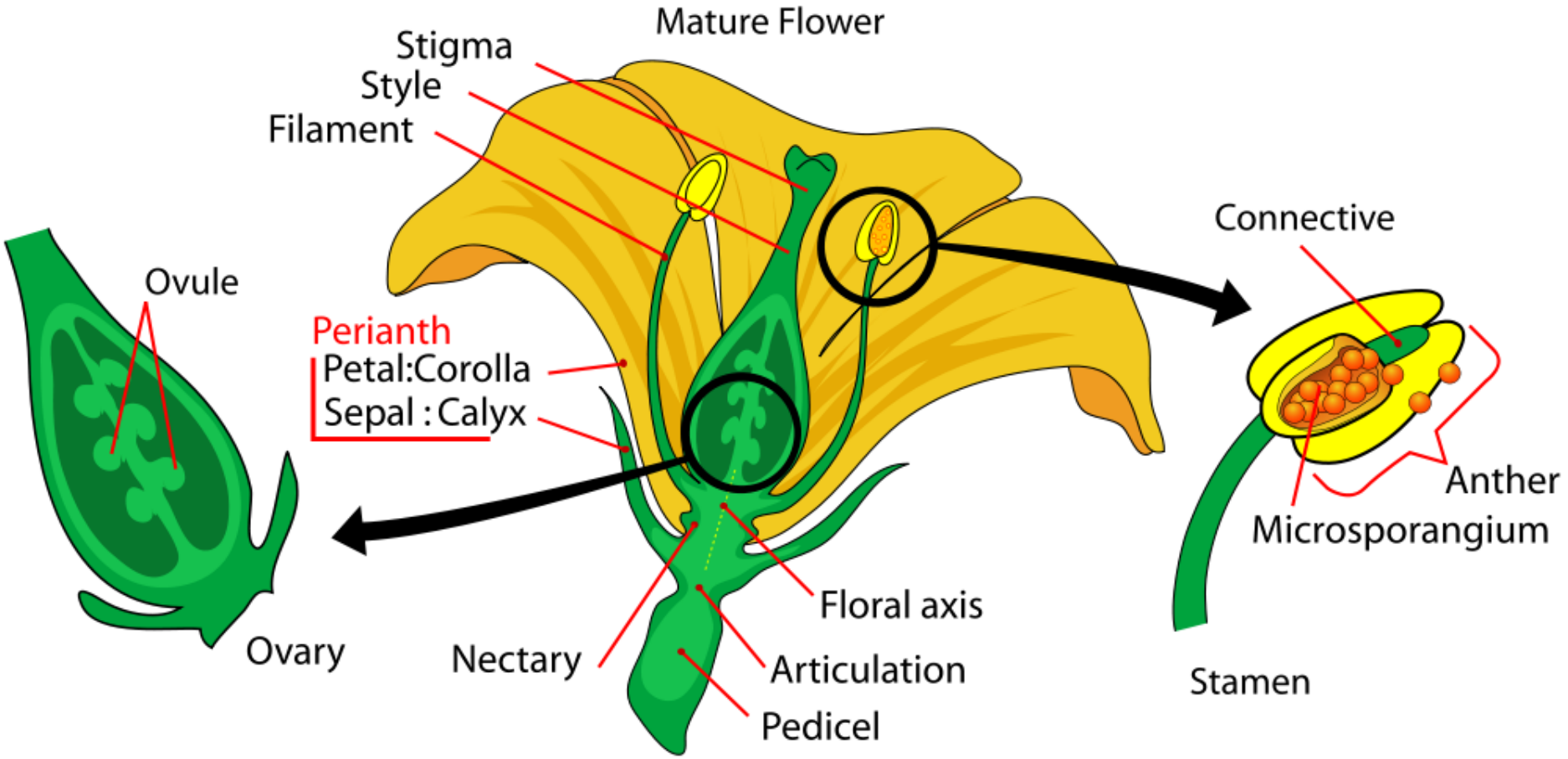
What determines the characteristics or traits that we see?

- Genes (microscopic material) that can be passed down from parent to child – determines traits
- (not jeans)



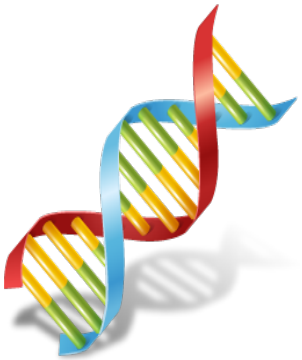
- DeoxyriboNucleic Acid or DNA
- There are genes in pollen cells and plant egg cells

How do plants share genes?



Variability in traits

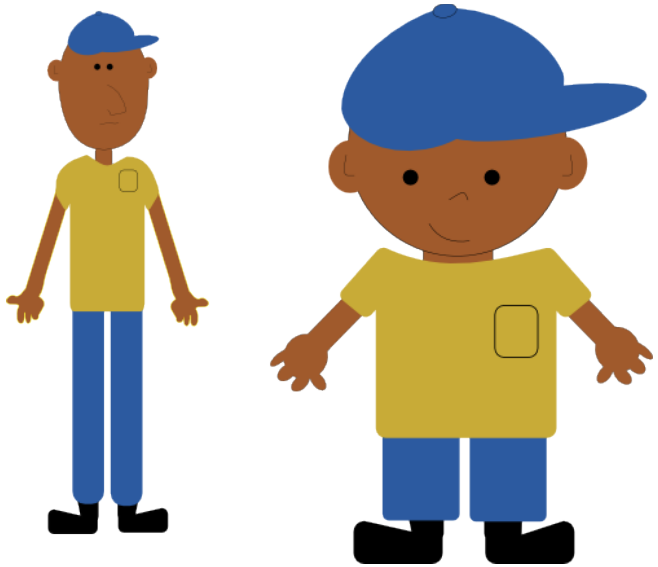
- What will Genes determine in a tomato?



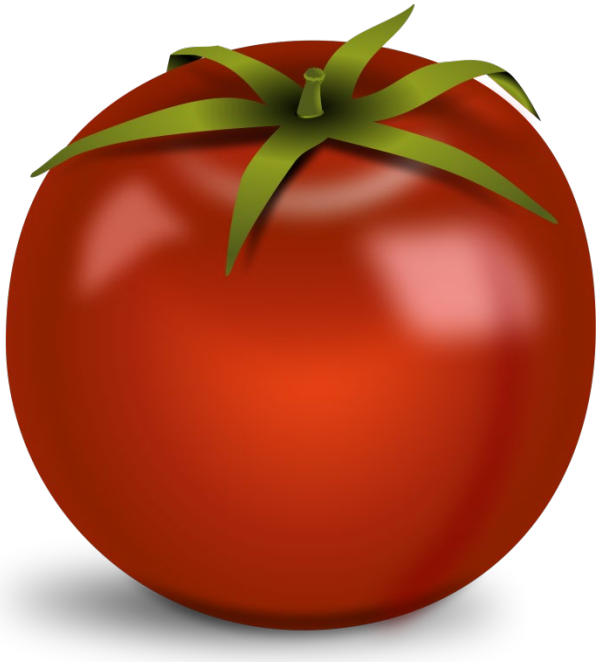
- color
- fruit size,
- firmness,
- resistance to cracking,
- Resistance to disease,
- blossom end rot susceptibility,
- shelf life,
- shape,
- sugar/acid levels
- Yield
- resilience to adverse environmental conditions.

What has more genes?

- A human?

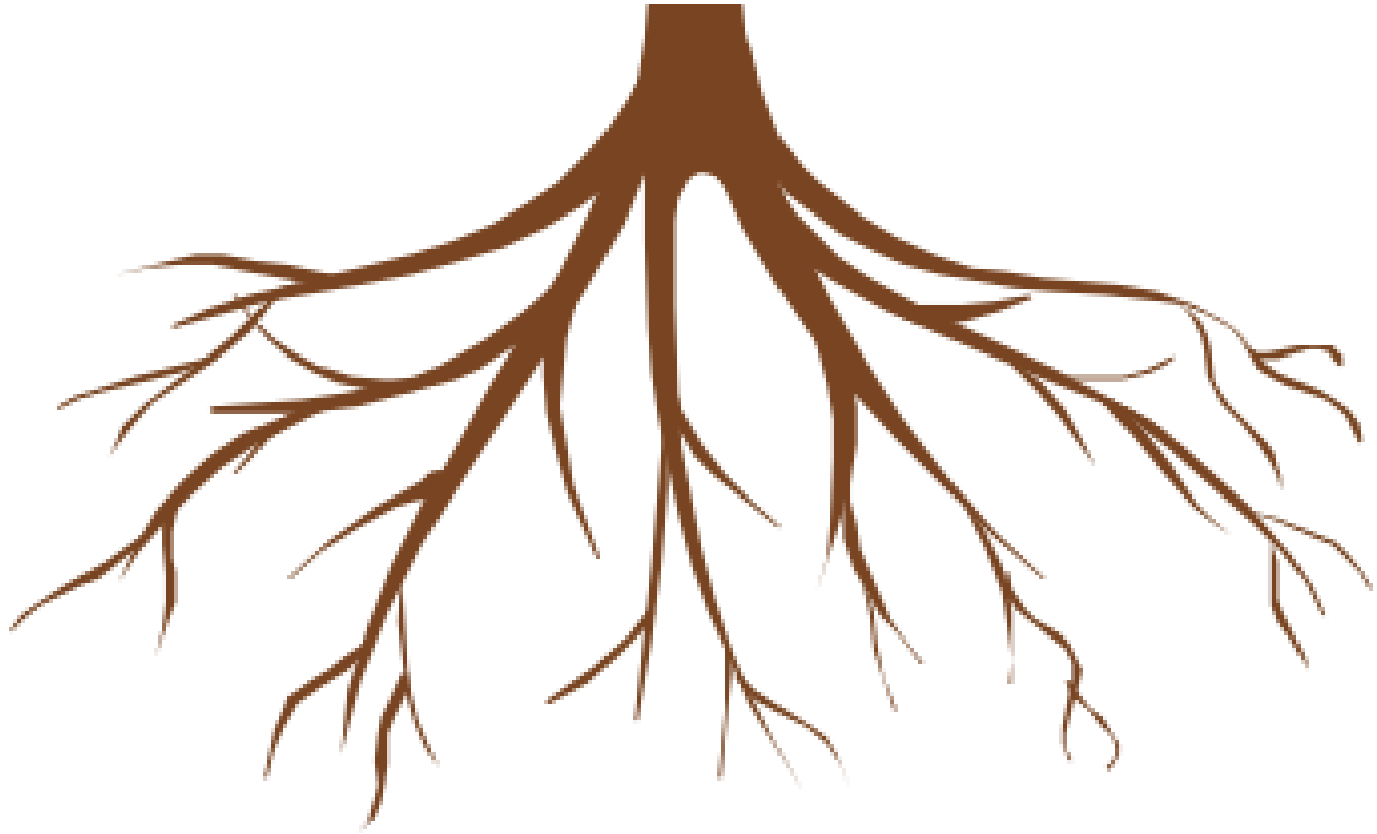


– A tomato?



Why would a tomato have 25% more genes than you or I?

- Roots



What do animals do to deal with adversity?

- When it is too cold, what do you do?
- When you are hungry what do you do?
- When you are lonely what do you do?
- When there are too many mosquitoes?

Plants can’t move

- Because plants can not move -they have more than one copy of a given gene – one copy for normal conditions and another for when it is under stress in adverse conditions.

- It is like a super power
- Having two copies of genes helps plants adapt

If you could design your own tomato plant, what would it look like?

- Complete the worksheet to design your own plant adapted to different conditions that it can sense.