



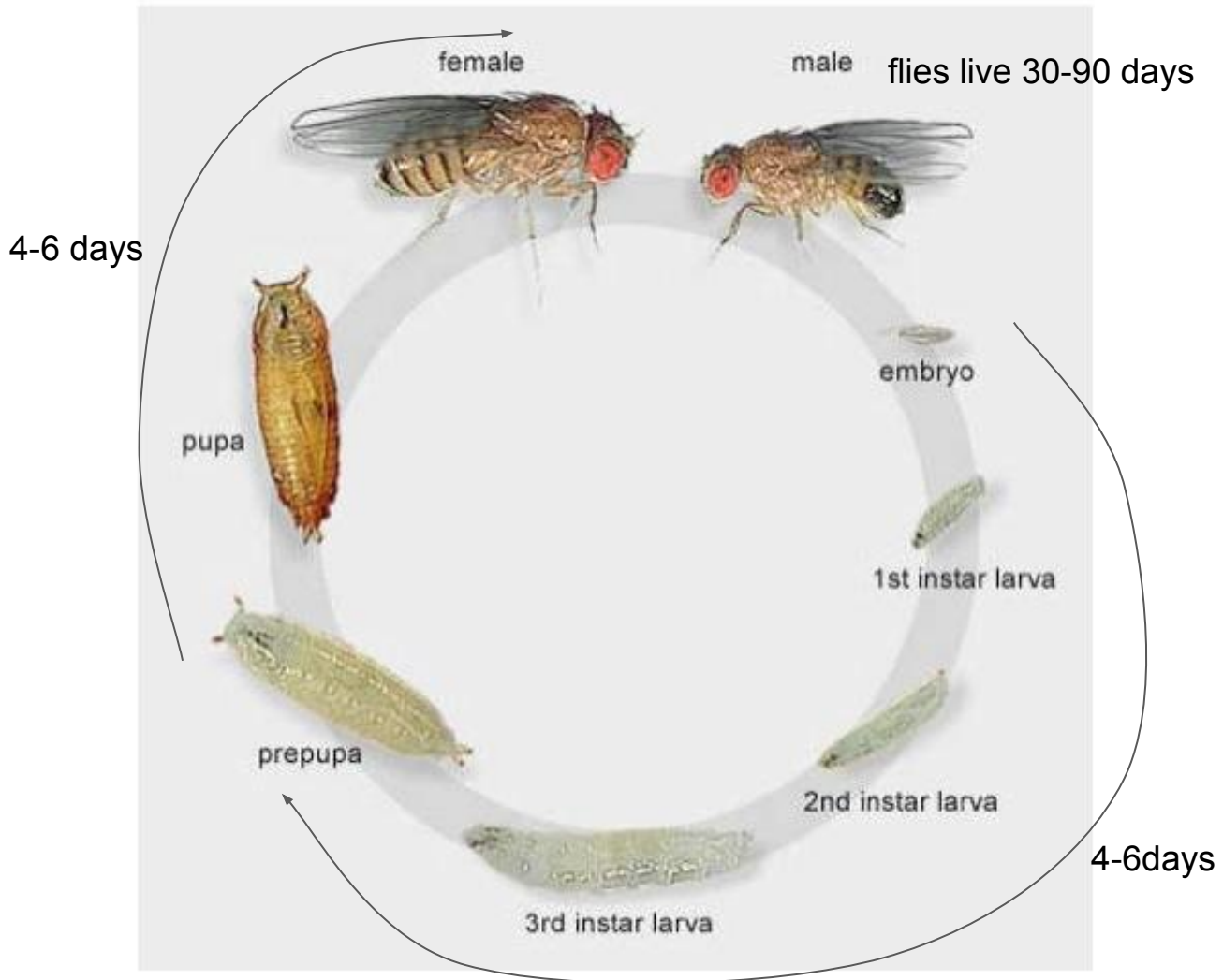
Fruit Fly Lab



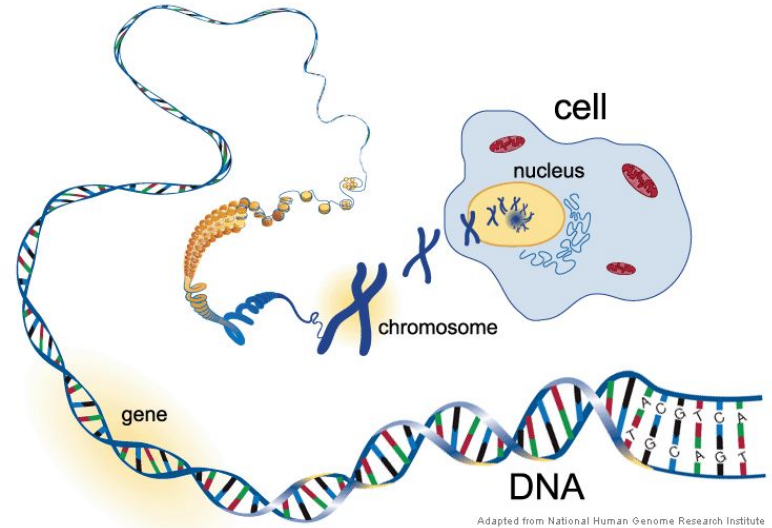


Female

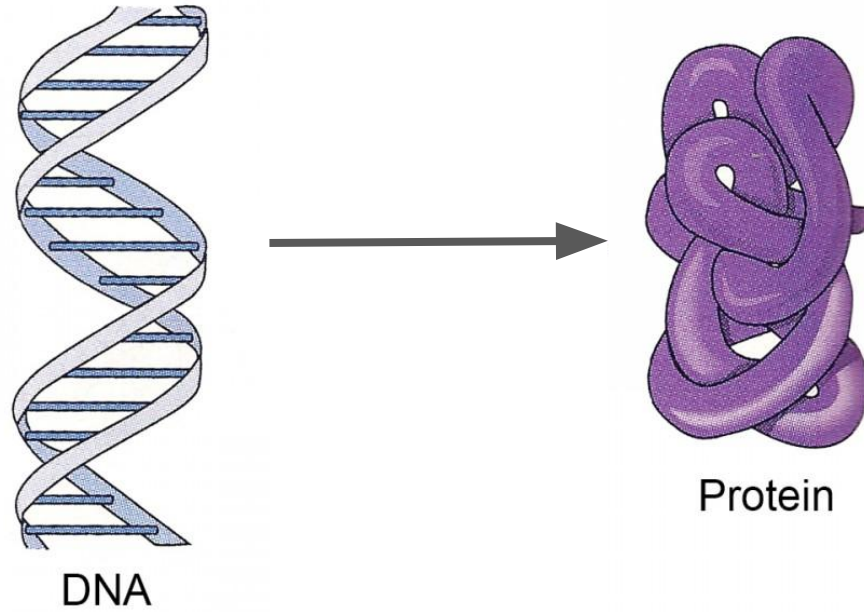
Male



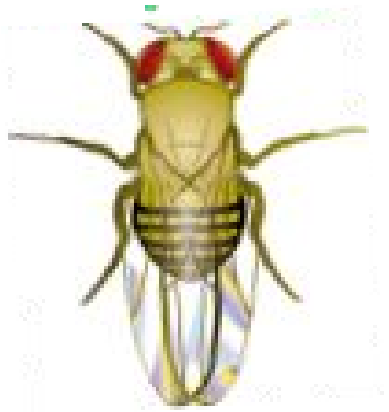
Fruit flies and humans share 60% of our genes.



So, what do you think scientists hope to learn by studying fruit flies?



Scientists mutate genes to find out the gene's role



Wildtype fly

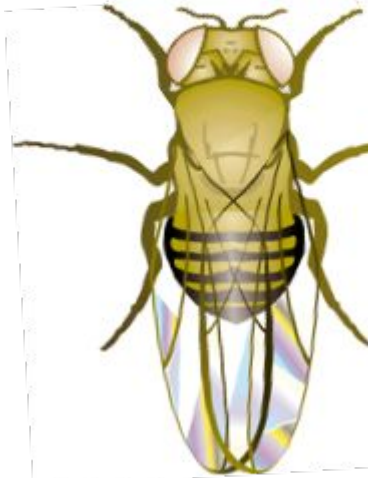
short wings



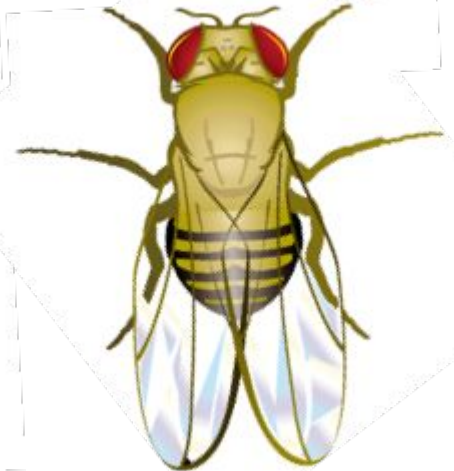
curly wings/white eyes



white eyes



airplane wings



Predict which flies are in your tube:

Your 1st Challenge:

Just observe our fly's behavior

- Holding the tube still, observe the position of the flies. How are the flies behaving in the tube?
- Invert the vial and observe the position of flies after 15 seconds, after 30 seconds. How are the flies behaving in the tube?
- Try gently tapping the tube so the flies fall to the bottom. Hold tube still and observe the position of the flies after 15sec, after 30secs. How are the flies behaving in the tube?

Taxis: the response of a living thing to an external stimulus

Can move towards (positive) or away (negative) from a stimulus

Examples of stimuli:

- light
- gravity
- food/smells/tastes



Your 2nd Challenge: which taxis are the flies performing?

- Work in pairs
- Your challenge is to figure out how to test if the flies are moving towards the light (positive phototaxis) or just that they move up (negative geotaxis or against gravity)?
- Pick a method of measurement
- There are supplies on the table you may need.
- You may all have different ideas for this.

Your 3rd Challenge:

do these mutations affect our fly's behavior?

- Work in pairs
- Find someone with a different number fly tube than you and test.
- You will have to figure out how you will measure if 1 fly mutant is better at the movement or taxis than another so we can quantify our results?
- There are supplies on the table you may need.
- You may all have different ideas for this.