Measuring is believing: quantifying adaptation behaviour of *Hydra*

Activity worksheet 1

I. Observation and documentation

Use vocabulary from the *Hydra* info sheet and write down one behaviour that you observe for your *Hydra*.	
Move the dish back and forth inside the lid as shown by your teacher. How does the *Hydra* react to the motion?	
Wait until the *Hydra* elongates. Move the dish again. How does *Hydra* react to the second movement?	

Write down the class hypothesis:

_____

_____

II. Experimentation

Let's test our hypothesis. Watch the video and

a) count how many times *Hydra* contracts.

b) Use your stopwatch to determine when the contraction occurs during the **2.5 min of observation**.
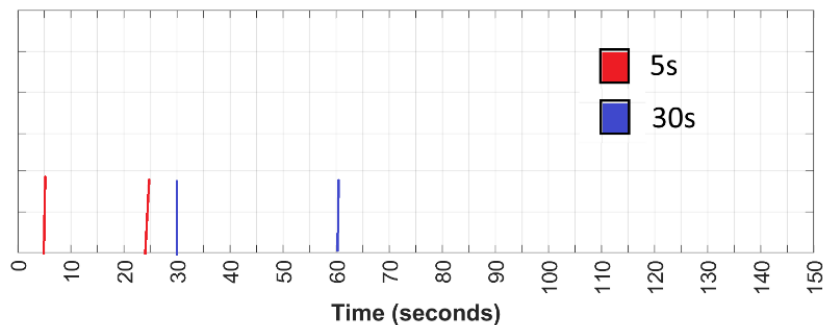
A 5 second precision is OK. Record your results below.

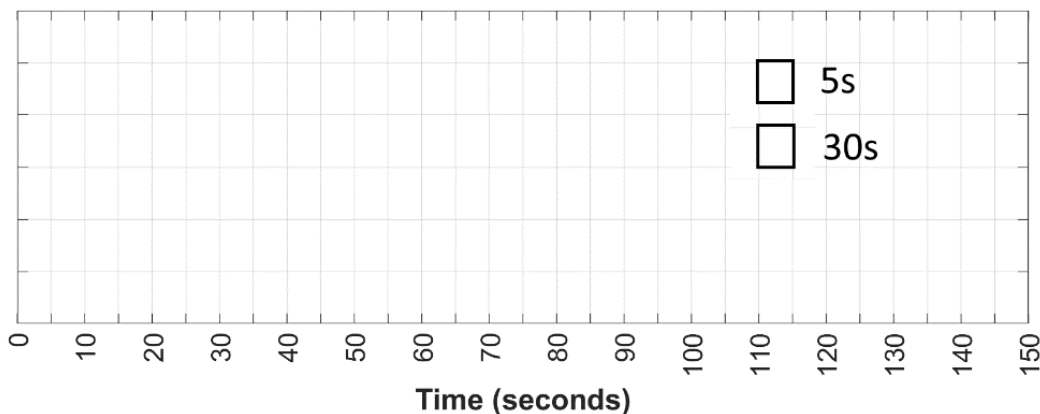|	5 s		30 s	
Animal number	#1	#2	#1	#2
How many times does the *Hydra* contract?				
When did the contractions occur? (write down time in seconds)				

III. Analysis and interpretation

Using the data from the table, draw a vertical line every time a contraction occurred on the time axis provided below. Use two different colours for the two stimuli (5 s and 30 s). Colour the squares next to the stimuli to indicate who is who, see example below. Interpret your results. What trends can you identify? What are similarities and differences between the trials?
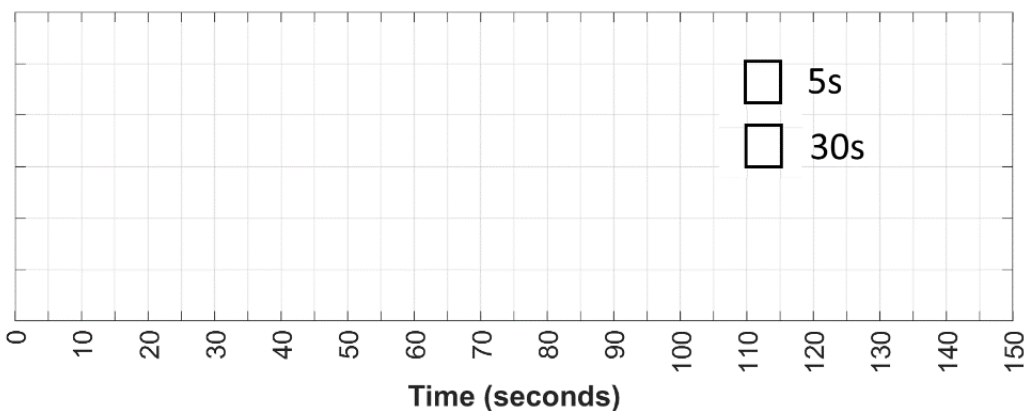
Example:

Animal #1

Animal #2

IV. Review the scientific method

For each activity in the lesson, fill in the corresponding step of the scientific method with the word bank provided.

Activity	Scientific method step
Comparing the number of *Hydra* contractions as a class	
Predicting how the *Hydra* will react to different time periods of water movement	
Counting the number of *Hydra* contractions to a specific time period of water movement	
Generating a list of questions to build a hypothesis	
Determining if your hypothesis is supported by evidence	
Identifying different behaviours of the undisturbed *Hydra*	

Word Bank
Observation
Question
Hypothesis
Experimentation
Analysis
Conclusion