

## Wester Hailes Science

### S1 Home Learning Materials

Week beginning 18 January 2020

Please complete the tasks on paper/computer/tablet. E-mail a picture to your teacher when you are finished for marking.

1W1, 1H2 send to

[Daniel.Fulton@whec.edin.sch.uk](mailto:Daniel.Fulton@whec.edin.sch.uk)

1W2, 1H1 sent to

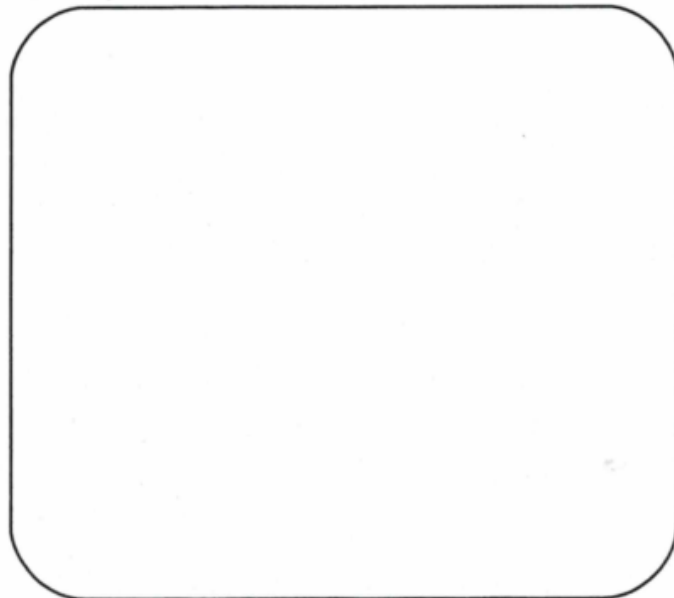
[Alison.Loudon@whec.edin.sch.uk](mailto:Alison.Loudon@whec.edin.sch.uk)

## APPARATUS AND INSTRUMENTS

MATCH each measurement with the correct instrument and unit from the UNIT-BOX and INSTRUMENT-BOX

	Instrument	Unit	
Temperature			<div style="border: 1px solid black; padding: 2px; text-align: center; margin-bottom: 5px;">UNIT-BOX</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">           grams    seconds            millilitres    amps            degrees Celsius            millimetres    hertz         </div> <div style="border: 1px solid black; padding: 2px; text-align: center; margin-bottom: 5px;">INSTRUMENT-BOX</div> <div style="border: 1px solid black; padding: 5px;">           stopclock    ruler                             thermometer            measuring cylinder            balance    syringe                             stethoscope         </div>
Weight			
Volume			
Length			
Time			

**DRAW** a neat scientific diagram to show a beaker of water, on a tripod, over a bunsen burner, ready to be heated.

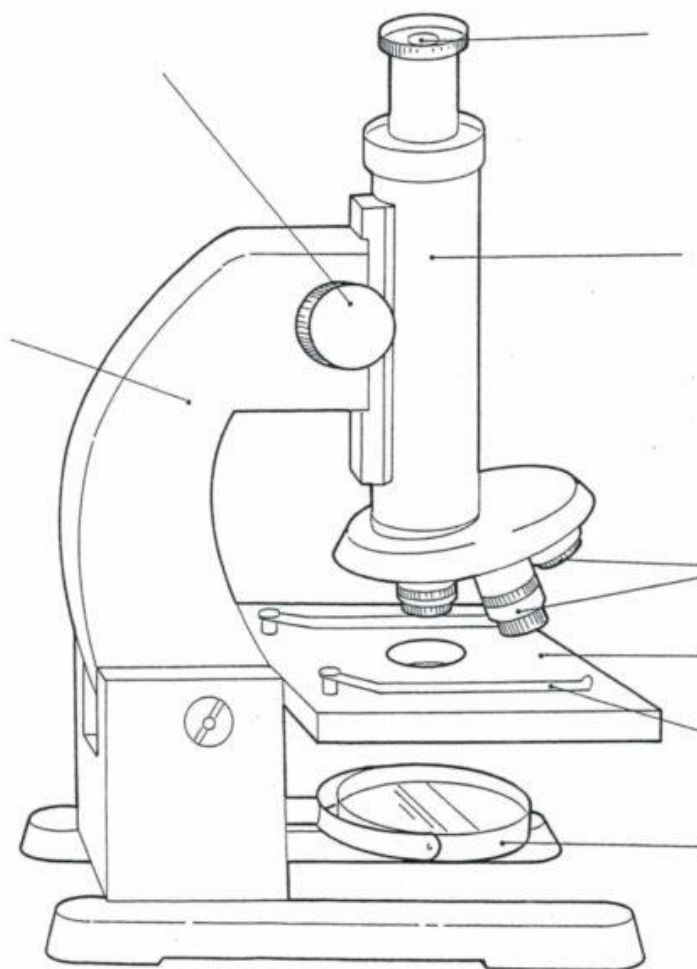


## Homework - Parts of the Microscope

Name \_\_\_\_\_ Class \_\_\_\_\_

Label the microscope using these words:

<i>eyepiece lens</i>	<i>mirror</i>	<i>clip</i>	<i>objective lens</i>
<i>handle</i>	<i>focussing knob</i>	<i>tube</i>	<i>stage</i>

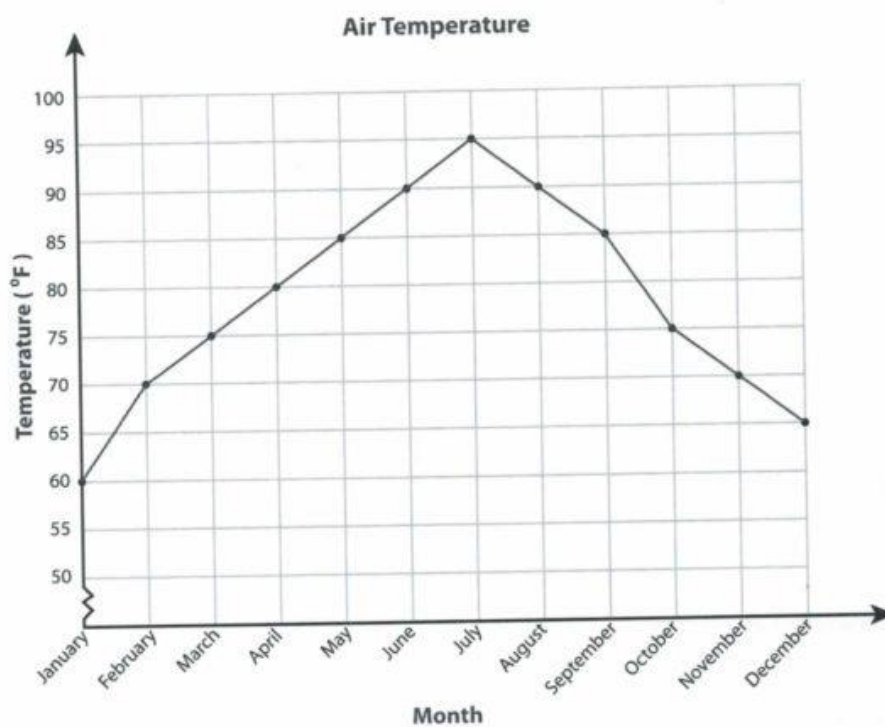


Name : \_\_\_\_\_

Score : \_\_\_\_\_

## Line Graph - Air Temperature

David, a meteorologist recorded the variations in air temperature (in  $^{\circ}\text{F}$ ) throughout the year. He made a line graph displaying the recorded information. Read the graph and answer the questions.

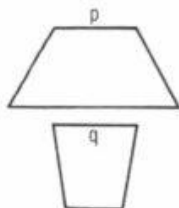


- 1) What is the highest recorded temperature? \_\_\_\_\_
- 2) Where do you see a raise of  $10^{\circ}\text{F}$  in the graph? \_\_\_\_\_
- 3) Which is the coldest month? \_\_\_\_\_
- 4) Which month recorded  $80^{\circ}\text{F}$ ? \_\_\_\_\_
- 5) What is the temperature recorded in the month of December? \_\_\_\_\_

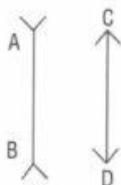
## Optical illusions

Extension  
Sheet

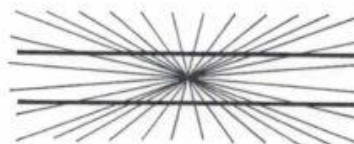
For each question 1–6, decide the answer first by looking, and then by measuring.



1 Which is longer, p or q?



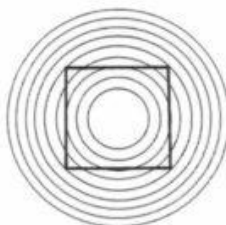
2 Which is longer, AB or CD?



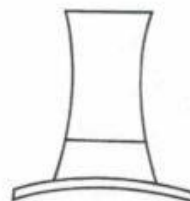
3 Are the thick lines really parallel or not?



4 Which is longer, p or q?



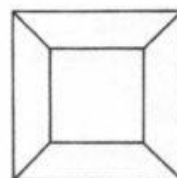
5 Do the thick lines make a square, or not?



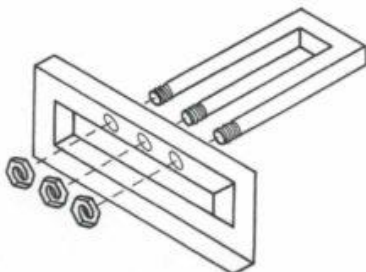
6 Which is longer – the height of the hat or the width of the brim?



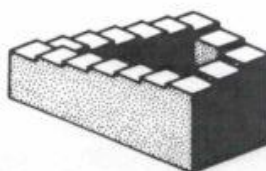
7 Are you looking at white stairs against a black wall or looking up at the underneath of a staircase against a white wall? (Try turning the page.)



8 Which is nearer to you – the small square or the large one?



9 Could you make these?



10 Keep on walking up. 11 What's wrong with this?



## Marie Curie

Marie Curie is best known for her work in radiation. She was born in Warsaw, Poland. Because both her parents were teachers, Marie learned how to read and write at a very young age. She was intelligent, had an outstanding memory, and worked very hard in school.

As Marie grew older, she was able to attend a university after graduating from high school, even though it was not something women did during those times. She attended a famous university in Paris, France called the Sorbonne where women were permitted to attend. After just three years at the school, she earned a degree in Physics.

In 1894, she married Pierre Curie. Marriage and motherhood did not stop Marie from her work and research as a scientist. She became interested in x-rays that had been recently discovered. She decided to do some experiments with the element uranium, which is given off by the rays.

Her husband, Pierre, joined Marie in her experiments. One day she was examining a material called pitchblende and had expected just a few rays to be given off. Instead, there were many extra rays and Marie realized there must have been an undiscovered element in pitchblende. She and her husband spent many hours in the lab doing investigations with the new element. They discovered two new elements, which were added to the periodic table.

Marie named one of the elements polonium after her home country, Poland, and the other she named it radium because it gave off so many strong rays. Marie and Pierre Curie came up with the new term 'radioactivity' to describe elements that emit strong rays.

In 1903, the Nobel Prize in Physics was awarded to both scientists for their work in radiation. Marie became the first woman in history to be awarded the Nobel Prize. In 1911, Marie won another Nobel Prize, this time in chemistry, for discovering the two elements, polonium and radium. This made her the first person ever to be awarded two Nobel Prizes.

During World War I, Marie came up with an idea to make x-ray machines more portable and easier to move from place to place. These portable machines helped over a million soldiers during the war.

Unfortunately, Marie Curie died in 1934 due to overexposure to radiation from the experiments and from the work she did with x-ray machines.

1) Where was Marie Curie born?

- A: Paris, France
- B: Sorbonne, France
- C: Warsaw, Poland
- D: United States

2) What degree did Marie Curie first earn in college?

- A: Physics
- B: Chemistry
- C: Biology
- D: Physiology

3) What did Marie Curie first become interested in which lead to her experiments?

- A: Research
- B: X-rays
- C: Injured soldiers
- D: Pitchblende

4) Which fields of science did Marie Curie win her Nobel Prizes?

- A: Chemistry
- B: Physics
- C: Biology
- D: Both A and B

5) Marie Curie discovered two new elements for the periodic table, radium and:

- A: Polonium
- B: Solonium
- C: Radon
- D: Curium

6) Which of the following was the cause of Marie Curie's death?

- A: Overexposure to polonium
- B: Overexposure to radiation
- C: Overexposure to cancer
- D: Overexposure to the sun