



Year 7

Science Revision & Skills Booklet

Booklet 2018

Term 1



Name _____

Class 7 K E N O B I

Teacher _____

The tasks included in this booklet reinforce the key ideas and skills taught in the science classroom. This booklet can be used to support your learning and to provide you feedback that enables you to actively monitor and evaluate your own learning.

All learning activities completed throughout the year, including your revision booklet, contribute towards your grading in the Science course.

Instructions

Students:

- It is my responsibility to make sure my parents/guardians **CHECK** and **SIGN** my homework at the end of each week.
- I must then bring my revision booklet to school for my teacher to **CHECK** and **SIGN** at the end of each week (or the day allocated by my teacher).
- I am expected to **complete all revision tasks** in this booklet **throughout the term**.
- I am to complete the **task allocated per week**, ready to hand in the booklet by the end of that week (or the day allocated by your teacher).
- I am to write all of my answers in this booklet.
- The answers completed in this booklet should be my **own work**.
- **This booklet is my responsibility**. If I lose this booklet I will need to ask my teacher for a copy to be emailed to my student email. I am then responsible for the printing of this booklet.
- Incomplete revision tasks or a non-genuine attempt will result in me completing this work during lunch supervision.
- Some of the skills in this booklet will be used in the yearly examinations, so I am helping myself succeed by completing the booklet!

I have read the above information and am aware of what is required from me and the consequences of not completing my revision tasks.

Name: _____ **Signature** _____

Parents:

All learning activities contribute towards your child's academic achievement. Tasks including this revision booklet are used as a regular part of the teaching and learning process to clarify your child's understanding of concepts, to remedy their misconceptions, and to support their further learning and the development of deeper understanding.

- You can assist by asking your child to show you the revision tasks for each week.
- When the weekly tasks have been completed, please sign the bottom of the activity sheet for that week.
- Your child will ALWAYS have Science revision.

Additional resources:

www.stile.com online learning interactive. Username and join code provided upon payment of Science fee.

<http://www.dec.nsw.gov.au/> to access student portal including email.

http://www.boardofstudies.nsw.edu.au/syllabus_sc/science.html Science syllabus documentation

<http://arc.boardofstudies.nsw.edu.au/go/home/> Information regarding grading can be located at the Board of Studies Assessment Resource Centre. The general performance descriptors for each of the five grade levels is documented in the table below.

<http://www.clickview.com.au/> Clickview documentaries (access codes via the library)

<http://www.bbc.co.uk/education> BBC Science clips, explanations, quizzes and interactive.

The **general performance descriptors** describe performance at each of five grade levels.

A	The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and skills and can apply these skills to new situations.
B	The student has a thorough knowledge and understanding of the content and a high level of competence in the processes and skills. In addition, the student is able to apply this knowledge and these skills to most situations.
C	The student has a sound knowledge and understanding of the main areas of content and has achieved an adequate level of competence in the processes and skills.
D	The student has a basic knowledge and understanding of the content and has achieved a limited level of competence in the processes and skills.
E	The student has an elementary knowledge and understanding in few areas of the content and has achieved very limited competence in some of the processes and skills.

Thank you for your cooperation. If you have any queries please contact the Science Faculty on

4658 1110 during business hours.

Week 1

Spelling & Definitions: Use “**look, cover, write and check**” to improve your spelling.

Use a **dictionary** to find the meaning of the word and write it into the table below.

By the end of the week you should have practised **three times**.

	Word	Practice 1	Practice 2	Practice 3
Spell	Hypothesis			
Define	Hypothesis			
Spell	Observations			
Define	Observations			
Spell	Scientist			
Define	Scientist			
Spell	Laboratory			
Define	Laboratory			
Spell	Biologist			
Define	Biologist			
Spell	Chemist			
Define	Chemist			
Spell	Physicist			
Define	Physicist			
Spell	Zoologist			
Define	Zoologist			
Spell	Geologist			
Define	Geologist			
Spell	Botanist			
Define	Botanist			
Parent signature:		Teacher signature:		
Date:		Date:		

Week 2

Comprehension task.

Read the following passage and then answer the following questions.

The thermometer is the most common tool for measuring temperature. Many thermometers use two different temperature scales: Fahrenheit and Celsius. You may have wondered how they relate to each other. Both scales were invented in the 1700's and are named after their inventors. The Fahrenheit scale was invented by Gabriel Fahrenheit. He set the boiling point for water at 212°F, and the freezing point at 32°.

Temperatures are measured all along the scale, much like a number line or ruler. The unit of measurement for temperature is a degree, instead of an inch on a ruler. Anders Celsius invented the Celsius scale after the Fahrenheit scale. He kept Fahrenheit's anchor points. The anchor points are the temperatures at which water would freeze or boil. Celsius however, changed the numbers of his temperature scale. Under the Celsius scale, water freezes at 0° and boils at 100°. This numbering scale has been adopted for most scientific purposes. It works well with the metric system.

Many thermometers work because liquid changes its volume, or the amount of space it takes up, based on its temperature. When a liquid is cold, it takes up less space than it does when it is warm. Many of the changes in temperature are very small. Thermometers use a large bulb filled with liquid and a very narrow tube to show the changes. The markings on the thermometer are based on the freezing point and boiling point of water. Why? Because Gabriel Fahrenheit chose them as conditions that are easy to recreate. Anders Celsius agreed. Sometimes, inventors set the standard for everyone.

Answer the following questions based on the reading passage.

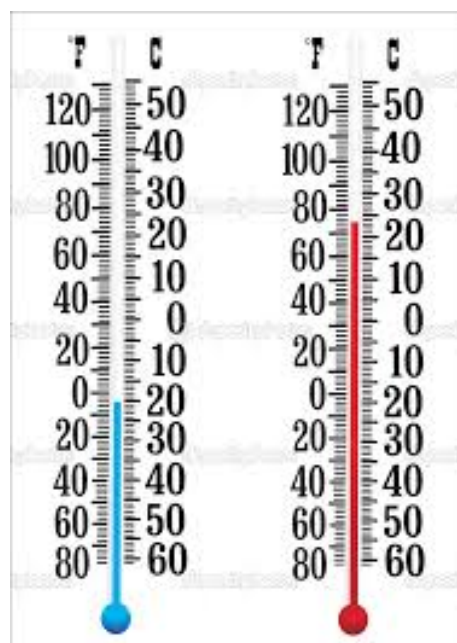
1) Which scale came first: Fahrenheit or Celsius?

2) Why do scientists use the Celsius scale?

3) Why do many thermometers use liquid?

4) What is the unit of measurement for temperature?

5) Which temperature would be more comfortable for most people: 80° Fahrenheit or 80° Celsius?



6. Look at the two thermometers above. Measure the temperature in Fahrenheit and Celsius.

Thermometer	Fahrenheit	Celsius
On left		
On right		

Parent signature:

Date:

Teacher signature:

Date:

Week 3

Task 1: Spelling. Use “look, cover, write and check” to improve your spelling. By the end of the week you should have practised three times.

Words	Practice 1	Practice 2	Practice 3
Experiment			
Observations			
Qualitative			
Quantitative			
Inferences			
Variables			
Independent			
Dependent			
Equipment			
Hypothesis			

Write four (4) separate sentences. Each sentence needs to contain two (2) of the words above.

Parent signature:	Teacher signature:
Date:	Date:

Week 4

Safety Symbols

Safety symbols are used in a lot of different settings. You may have seen them on building sites, entrances to buildings, at schools or on roads. Our science laboratories and chemicals also include safety symbols. A safety symbol is a simple drawing but it can tell us a lot about the risks or uses of an item.

Use the words in the word bank below to label the following safety signs.

Fire extinguisher	Environmental hazard	Explosive hazard	Gases under pressure
Acute toxicity	Health hazard	Corrosive hazard	Oxidising hazard
Flammable hazard	Dangerously reactive materials	Biohazardous	



Parent signature:

Date:

Teacher signature:

Date:

Week 5

Safety in the Laboratory. Select the words from the word bank below to complete the following sentences.

*coat	*waft	*bump	*PPE	*chemicals	
*eat food	*instructions	*PPC	*report	*glasses	* Bunsen
*taste	*teacher	*water	*gloves	*enclosed	* sink

- a. Never _____ any chemicals in the laboratory.
- b. If you spill any _____ on your skin, wash immediately with plenty of _____, and then tell your teacher.
- c. Take care not to _____ into anyone who is using chemicals.
- d. Do not _____ in the science classroom.
- e. Before you begin an investigation, make sure you know what you are doing. Listen to your teacher and read the _____ carefully.
- f. Never smell gases or mixtures of chemicals directly. Instead, _____ them near your nose, and only when instructed.
- g. The correct personal protective clothing or _____ includes correct school uniform which includes fully _____ hard toe leather shoes.
- h. When completing a practical investigation all safety risks should be minimised to prevent harm. This may include wearing personal protective equipment or _____, which includes safety _____ for eye protection, _____ for protection of your hands, and a laboratory _____ to protect your body from flames, chemicals, biological waste and sharps. _____ all breakages to your _____.
- i. Light a _____ burner with a match, never with paper or other materials.
- j. Never put used matches down the _____ or it will block the drain.

Parent signature:

Date:

Teacher signature:

Date:

Week 6

Pictured below are 14 pieces of scientific equipment. Write down the names of 10 pieces of equipment. List them in alphabetical order. Identify whether they are made of metal, plastic or glass.

Number	Name of equipment	Alphabetical order	Metal, Plastic or Glass?
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			



Parent signature: Date:	Teacher signature: Date:
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Week 7

Carry out the following procedure at home: Obtain a large ball and a small ball, separately roll and time how long each take in seconds to roll down a slope.

Rolling Ball Problem

Problem: Does a large ball roll down a slope faster than a small ball?

Procedure:

1. Using a stopwatch, measure the time it takes for a large ball to roll down a slope.
2. Repeat the test until you have 5 readings written in the table below.
3. Place a small ball on the slope and measure the time it takes to roll down the slope.
4. Repeat this test until you have 5 readings in the table below.
5. Add up the times in each column and write your answer in the total space in the table.
6. Calculate the average time (divide the total time by the number of readings).
7. Write an appropriate conclusion.

Results Table:

Reading	Large Ball Times (s)	Small Ball Times (s)
1		
2		
3		
4		
5		
TOTAL		
AVERAGE TIME		

Conclusion:

Parent signature:	Teacher signature:
Date:	Date:

Week 8

Spelling & Definitions: Use “**look, cover, write and check**” to improve your spelling.

Use a **dictionary** to find the meaning of the word and write it into the table below.

By the end of the week you should have practised **three times**.

	Word	Practice 1	Practice 2	Practice 3
Spell	Discussion			
Define	Discussion			
Spell	Conclusion			
Define	Conclusion			
Spell	Measurement			
Define	Measurement			
Spell	Extrapolate			
Define	Extrapolate			
Spell	Analysis			
Define	Analysis			
Spell	Reliability			
Define	Reliability			
Spell	Predict			
Define	Predict			
Spell	Research			
Define	Research			
Spell	Accuracy			
Define	Accuracy			
Spell	Validity			
Define	Validity			

Parent signature: Date:	Teacher signature: Date:
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Week 9

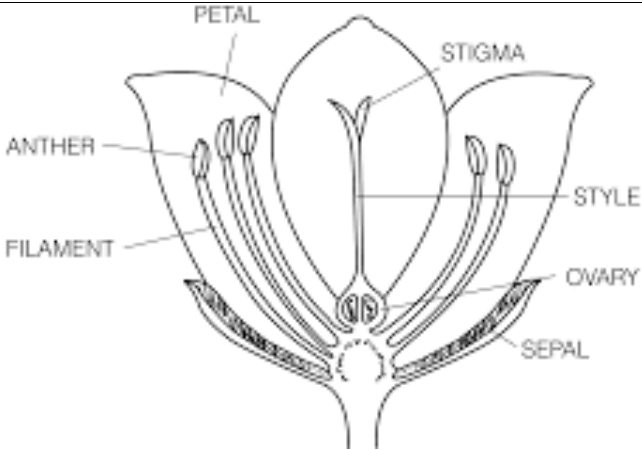
Drawing scientifically

Scientists have a quick and simple way to draw observations. Using scientific drawings means you don't have to be an artist to be a good scientist and you have more time to do the experiments.

The procedure for drawing scientifically is as follows:

1. Look at the specimen carefully and examine the significant features that will be included in the drawing.
2. **DRAW ONLY WHAT YOU SEE!!** Do not include what you think you should see
3. Draw clearly and neatly. Always use distinct, single lines when drawing.
4. **Always** use a **sharp pencil**.
5. Draw the equipment in 2D.
6. Do not show any detail, just a simple outline with **no shading**.
7. Draw lines with a **ruler**.
8. Print labels neatly and connect them to the diagram with a line (do not use arrows).
9. Spell labels correctly
10. Diagrams should be between 4 and 8cm high.
11. No more than two drawings should be on a single page.

Some examples are shown below:

	
Find an insect and draw a labelled scientific diagram.	Find a toy and draw a labelled scientific diagram.
Parent signature: Date:	Teacher signature: Date:

Week 10

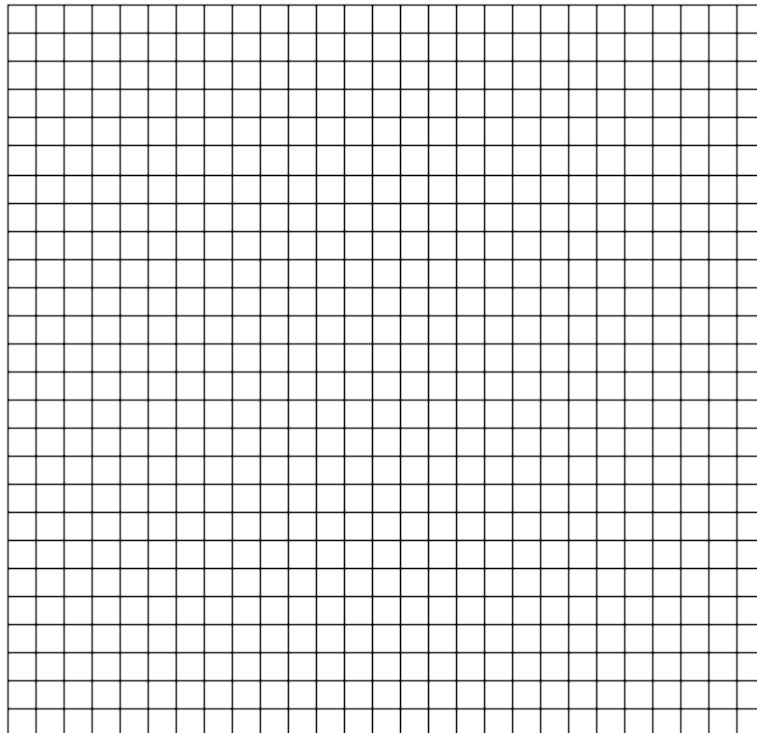
HEAT ENERGY



A group of students set up three round bottom flasks, one containing water, one full of sand and the other full of air. They placed a thermometer in each flask and positioned the flasks in the sunlight. They recorded the temperature of the flasks every 5 minutes for a period of 1 hour. Their results are displayed below.

Time (min)													
FLASK		5	10	15	20	25	30	35	40	45	50	55	60
	A	14	14	15	15	16	16	17	18	18	19	20	21
	B	13	13	13	13	13	13	14	14	14	14	14	15
	C	15	15	15	15	15	15	15	15	15	15	15	15

1. Graph the results above onto the grid below.



2. Which flask do you think contained water, sand and air?

Flask A = _____

Flask B = _____

Flask C = _____

3. What aim would you write for this experiment?

AIM: _____

4. To ensure this experiment is a fair test, what things would you make the same?

5. Draw a scientific diagram of the experiment in the space below:

