SCOUT AIR ACTIVITY CENTRE- VICTORIA

Scout Air Activity Target Badge
Adventurer Level

Name: _____

Group _____ **Date** _____

Notes & Instructions:
1. Enter your name, group and date above
2. Staple pages together
3. All material in this worksheet will be covered at the Target Badge Day

To achieve the Adventurer Air Activities Target you must complete all of the requirements below:

1. RECOGNITION
Write down the type of each aircraft and their function and use.

	Type of Aircraft	Function/Use
	.....	.....
	.....	.....
	.....	.....
	.....	.....

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	Type of Aircraft	Function/Use
	.....	.....
	.....	.....
	.....	.....
	.....	.....
	.....	.....
	.....	.....

	Type of Aircraft	Function/Use
	.....	.....
	.....	.....

b) **Piston Engines and Turbojet Engines**

(i) What is the difference between the piston engine and the turbojet engine?

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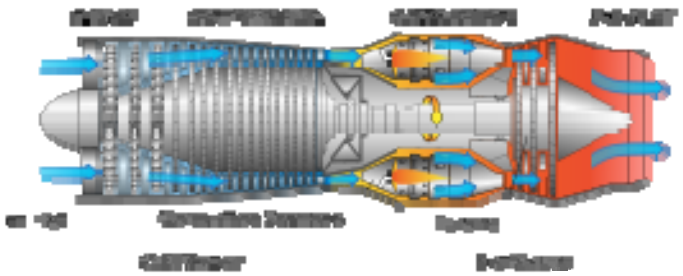
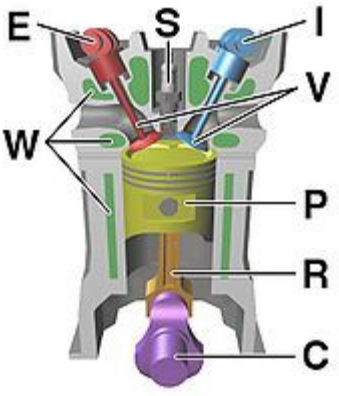
(ii) Label which engine is a piston engine and which is a turbojet engine.

(iii) Explain how the power of the piston engine is adapted to propel an aircraft.

.. ……

.. ……

(iv) Explain how the power of the turbojet engine is adapted to propel an aircraft.

.. ……

.. ……

2. WEATHER

a) Know the common types of cloud and the weather usually associated with each type, and what effect these formations have upon the flight performance of an aircraft.

Answer the following:

a) (i) 

Name of type of cloud: ……

Describe type of cloud: ……

High or low level cloud? ……

Weather associated with type of cloud : ……

What is the effect of this cloud on flight performance of light aircraft:

……

……

a) (ii) 

Name of type of cloud: ……

Describe type of cloud: ……

High or low level cloud? ……

Weather associated with type of cloud : ……

What is the effect of this cloud on flight performance of light aircraft:

……

……

a) (iii) 

Name of type of cloud: ……

Describe type of cloud: ……

High or low level cloud? ……

Weather associated with type of cloud : ……

What is the effect of this cloud on flight performance of light aircraft:

……

……

a) (iv) 

Name of type of cloud: ……

Describe type of cloud: ……

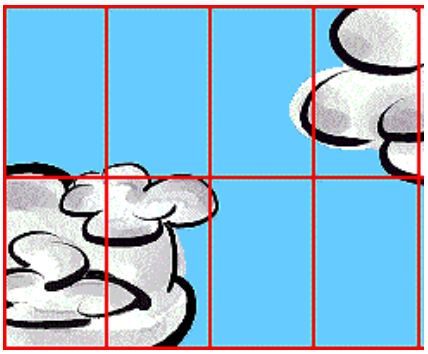
High or low level cloud? ……

Weather associated with type of cloud : ……

What is the effect of this cloud on flight performance of light aircraft:

……

a) (v) The coverage of clouds is measured in eights. What fraction of the cloud below is covered with cloud and what would that fraction be called in a weather report?



Fraction: .....Clear, Few, Scattered, Broken or Overcast?.....

a) (vi) Name 3 types of high level clouds:

1. ……
2. ……
3. ……

a) (vii) Name 2 types of middle level clouds:

1. ……
2. ……

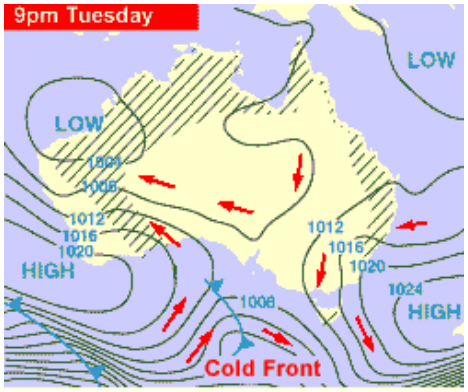
a) (viii) Name 5 types of low level clouds:

1. ……
2. ……
3. ……
4. ……
5. ……

b) List 5 things you need to know to estimate the time it would take to cover a certain distance in the air.

1. ……
2. ……
3. ……
4. ……
5. ……

c) Show a proficiency in interpreting weather maps. Answer the following questions:



c) (i) What do the circular lines indicate?

.. ……

c) (ii) Do high pressure cells have the wind rotating around them in an anti-clockwise or clockwise direction?

.. ……

c) (iii) Do low pressure cells have the wind rotating around them in an anti-clockwise or clockwise direction?

.. ……

c) (iv) What are the black lines called?

.. ……

c) (v) What do the black lines do?

.. ……

c) (vi) What do the distance between the black lines indicate?

.. ……

c) (vii) What does it mean when the lines are close together and what type of weather is it in the area where the lines are close together?

.. ……

c) (viii) What type of weather is it in the area where the lines are far apart?

.. ……

c) (ix) Does the air moves upwards or downwards in the centre of a low pressure cell?

.. ……

c) (x) Does the air moves upwards or downwards in the centre of a high pressure cell?

.. ……

c) (xi) What does the numbers on the black lines indicate?

.. ……

c) (xii) What is the average sea level pressure?

.. ……

c) (xiii) If the atmospheric pressure is higher than the average sea level pressure is the area of low or high pressure?

.. ……

c) (xiv) Blue lines with arrowheads on their leading edge indicating their direction of travel represent what?

.. ……

c) (xv) How are areas of rain represented on weather maps?

.. ……

c) (xvi) Does weather generally move from west to east or east to west?

.. ……

3. THEORY

(a) (i) Describe the correct procedure for radio communication with the control tower or other aircraft on the ground and in the air.

1. ……
2. ……
3. ……
4. ……
5. ……
6. ……

(a) (ii) Set out below what you would initially say to the Moorabbin Tower from aircraft TDX, a Cessna 152 at the holding point of runway 17L seeking permission to take off for the Moorabbin training area.

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(b) Find out, by discussion with a commercial pilot or flight instructor, what the main responsibilities are in performance of their work. To do this come up with 5 questions to ask the pilot or instructor, list the questions below and provide the answers to those questions after you have had your discussion.

Q1: .....

.....

A1: .....

.....

.....

Q2: .....

.....

A2: .....

.....

.....

Q3: .....

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A3: .....

.....

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Q4: .....

.....

A4: .....

.....

.....

Q5: .....

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A5: .....

.....

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4. ACTIVITY

During your visit at the Scout Air Activity Centre- Victoria answer the following:

(a) Who is responsible for the maintenance of airport services at Moorabbin Airport?

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(b) What is the function of a control tower?

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(c) What is the function of an Air Traffic Controller?

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……

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(d) (i) Name an airline that uses the Moorabbin aerodrome

……

(ii) Name 5 aircraft that use the Moorabbin aerodrome

7. ……
8. ……
9. ……
10. ……
11. ……

5. LIGHT AIRCRAFT FAMILIARISATION

Do 5 of the tasks below:

a) (i) **PRACTICAL - Learn how to assist correctly in ground handling of an aircraft.**

a) (ii) List 5 safety precautions required whilst refueling a light aircraft.

1. ……
2. ……
3. ……
4. ……

5. ……

b) (i) List the cockpit checks performed by the pilot for a Piper PA28 Warrior prior to takeoff.

The first letter is the start of the check item.

T. ……

T. ……

M. ……

M. ……

M. ……

F. ……

F. ……

I. ……

S. ……

C. ……

H. ……

b) (ii) List the cockpit checks performed by the pilot for a Piper PA28 Warrior prior to the landing approach. The first letter is the start of the check item.

B. ……

O. ……

U. ……

M. ……

M. ……

M. ……

F. ……

F. ……

A. ……

H. ……

c) (i) Describe the function of the following aircraft controls and describe how they are controlled.

Rudder pedals

Function: .....

.....

How it is controlled .....

.....

Control Column

Function (Elevators): .....

.....

How it is controlled .....

.....

Ailerons

Function (Ailerons): .....

.....

How it is controlled .....

.....

Flaps

Function: .....

.....

How it is controlled .....

.....

T**rimtab**

Function: .....

.....

How it is controlled .....

.....

Mixture

Function: .....

.....

How it is controlled .....

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Throttle

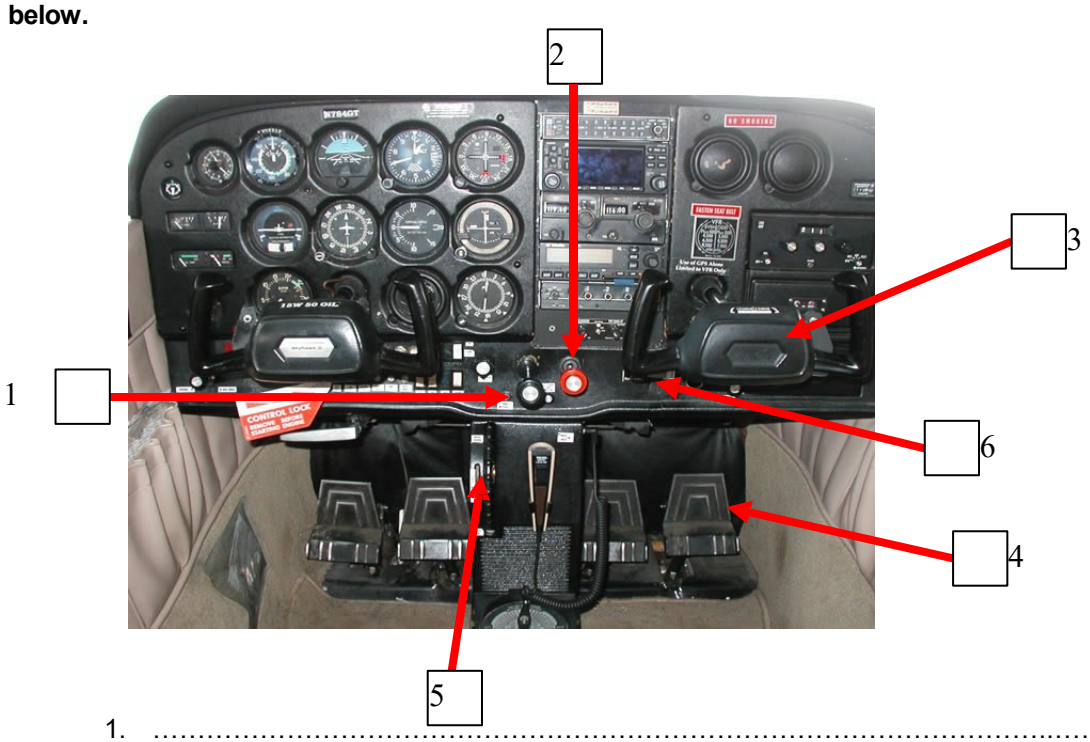
Function: .....

.....

How it is controlled .....

.....

c) (iii) **List below the name of the aircraft controls which are numbered 1 to 6 on the picture below.**



1. .....
2. .....
3. .....
4. .....
5. .....
6. .....

7. **d) PRACTICAL - With the use of a map, compass and ruler, show how to plot a course between Moorabbin and Carrum.**

e) Set out the procedure to adopt in the event of an emergency when fire in engine while in flight.

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