

9th Barking & Dagenham Meteorologist Badge Pack - Test

Name: _____

Patrol: _____



The Scout must complete these six activities.

1. Be able to explain and demonstrate how the following are measured:
 - Wind force and direction
 - Cloud type and amount
 - Temperature
 - Pressure
 - Rainfall amount
2. Keep a record of these weather conditions for at least two weeks.
3. Understand at least three different ways in which clouds are formed.
4. Know the typical weather produced in their own area by 'warm' and 'cold' air masses in summer and winter, noting the effects of land and sea. Understand the weather associated with a change of air mass at 'fronts'.
5. Know how synoptic weather maps are produced and be able to understand a simple map, with fronts and isobars, similar to those shown on television and printed in some newspapers. Relate their observations in requirement 1 to these maps.
6. Understand the effects of temperature, wind and water on the human body in cases of hypothermia and exhaustion.

Air Masses Test

What is the boundary between 2 air masses called?

- a) a front
- b) a trough
- c) a ridge

In an air mass the temperature and moisture changes are?

- a) large
- b) small
- c) very large

From what direction does tropical continental air usually reach the UK?

- a) north-east
- b) south-east
- c) south

What kind of weather does tropical continental air bring in summer?

- a) hot and cloudy
- b) cool and sunny
- c) hot and sunny

Which of these does polar continental air not come from?

- a) Scandinavia
- b) France
- c) Russia

Which air mass reaches us from the south-west?

- a) tropical maritime
- b) tropical continental
- c) polar maritime

Which is the most common air mass to affect the UK?

- a) tropical continental
- b) polar maritime
- c) polar continental

An air mass which is cooled from below will become more?

- a) unstable
- b) stable
- c) uniform

From what direction does polar maritime air usually reach the UK?

- a) north-east
- b) south-east
- c) north-west

What kind of weather does polar maritime air usually bring?

- a) showery
- b) sunny
- c) cloudy

From what direction does returning polar maritime air usually reach the UK?

- a) south-west
- b) north-west
- c) north-east

An air mass which travels over a warm sea will become more?

- a) stable
- b) unstable
- c) uniform

Which two air masses does a front normally separate?

- a) Polar Maritime and Tropical Maritime
- b) Polar Continental and tropical continental
- c) Polar continental and tropical maritime

What kind of weather does tropical maritime air usually bring in winter?

- a) mild and cloudy
- b) cold and clear
- c) mild and clear

If the air blows directly from the poles, this is sometimes called?

- a) polar maritime
- b) polar continental
- c) arctic maritime

Clouds Test

Clouds form because moist air cools as it

- a) rises
- b) sinks
- c) stays at constant height

High altitude clouds such as Cirrus are mainly made up of?

- a) water
- b) ice
- c) water and ice

How long does a cumulus cloud normally last?

- a) 5 minutes
- b) 10 minutes
- c) 15 minutes

How tall can a Cumulonimbus cloud become?

- a) 5km
- b) 10km
- c) 15km

What is the anvil of a cumulonimbus cloud made up of?

- a) water
- b) water and ice
- c) ic

Which cloud is most likely to give us thunderstorms?

- a) Cumulonimbus
- b) Stratocumulus
- c) Cumulus

How much rain fell in the "Hampstead Storm"?

- a) 120mm
- b) 150mm
- c) 170mm

What level is Stratus cloud found?

- a) High
- b) Low
- c) Medium

Which area of the British Isles experiences the most stratus cloud?

- a) Northern
- b) Southern
- c) Western

What does a layer of cirrostratus cloud normally suggest about the weather?

- a) deterioration
- b) improvement
- c) no change

What is the main difference between Stratocumulus and Altocumulus cloud?

- a) altitude
- b) size
- c) structure

At what time of day are cumulonimbus clouds most common in summer?

- a) morning
- b) afternoon
- c) evening

What does nimbus mean?

- a) heap / pile
- b) rain bearing
- c) layer

In hilly areas, cumulus clouds are normally formed of slopes facing?

- a) north
- b) south
- c) east

At what temperature do the water droplets in a cloud freeze to form ice crystals?

- a) 0°C
- b) -2°C
- c) -20°C

Weather Instruments

When making a rain gauge where should you place it?

- a) in the open
- b) under a tree
- c) next to a hedge

When do meteorologists normally check their rain gauges?

- a) 6am
- b) 9am
- c) 12pm

Why are the thermometers kept in a Stevenson Screen?

- a) keep them clean
- b) keep them shaded
- c) keep them dry

How high above the ground should thermometers be?

- a) 1.0 metre
- b) 1.25 metres
- c) 1.5 metres

What instrument do we use to measure wind speed?

- a) Wind Vane
- b) Anemometer
- c) Barometer

What is a barometer used to measure?

- a) humidity
- b) wind speed
- c) pressure

What colour is a Stevenson Screen painted?

- a) white
- b) grey
- c) black

When reading a wind vane, the direction the arrow is pointing indicates the direction in which the wind?

- a) is blowing from
- b) is blowing to
- c) was last recorded

Wet and dry bulb temperatures can be used to calculate

- a) pressure
- b) humidity
- c) wind speed

What is the place called where you make weather observations?

- a) weather station
- b) weather stop
- c) weather rank

Why do you put sand in the bottle when making an anemometer?

- a) to absorb moisture
- b) to make it look good
- c) to weigh it down

When reading your home made barometer, how can you measure how the pressure has changed?

- a) mark the water level on the bottle
- b) measure the height of the water with a ruler
- c) mark the water level on the bottle or measure the height of the water with a ruler

Why is a thin piece of cloth dipped in water sometimes wrapped around a thermometer?

- a) to keep it warm
- b) to keep it wet
- c) to keep it clean

Which instrument is used to measure temperature?

- a) anemometer
- b) barometer
- c) thermometer

Which instrument is used to measure rainfall?

- a) rain gauge
- b) anemometer
- c) barometer

Weather Observations

Cloud cover is measured in

- a) quarters
- b) eighths
- c) tenths

How many different types of cloud are there?

- a) eight
- b) ten
- c) twelve

Which of these is not a type of high cloud?

- a) cirrostratus
- b) cirrocumulus
- c) nimbostratus

Which of these is not a type of low cloud?

- a) cirrocumulus
- b) cumulus
- c) stratus

The amount of water vapour in the air, compared to the amount that it could hold is known as

- a) dew point
- b) vapour pressure
- c) humidity

Which thermometers are used to measure humidity?

- a) maximum and minimum
- b) wet and dry bulb
- c) indoor and outdoor

Which of these weather instruments is used to measure wind direction?

- a) ventimeter
- b) wind vane
- c) anemometer

0°C is the same as?

- a) 32°F
- b) 42°F
- c) 52°F

What is measured on the Beaufort scale?

- a) temperature
- b) wind direction
- c) wind speed

When siting your weather instruments, which of these should be placed next to a shaded wall?

- a) rain gauge
- b) anemometer
- c) thermometers

At what time are weather readings taken at most observing sites?

- a) 0600 GMT
- b) 0900 GMT
- c) 1200 GMT

What is the highest category on the Beaufort scale?

- a) Gale
- b) Storm
- c) Hurricane

How high above ground is an anemometer placed?

- a) 1 metre
- b) 10 metres
- c) 100 metres

The official definition of fog is a visibility of less than?

- a) 500 metres
- b) 1000 metres
- c) 1500 metres

Which of these is not a unit of measure for pressure?

- a) inches
- b) millibars
- c) pounds

Weather Maps

Lines joining areas of equal pressure are called?

- a) isobars
- b) isohyetes
- c) isotherms

What is the average surface pressure in the UK?

- a) 1009 mb
- b) 1013mb
- c) 1021 mb

If you stand with your back to the wind in the Northern Hemisphere, low pressure will be?

- a) to your left
- b) to your right
- c) in front of you

The closer together the isobars on a weather map the _____ the wind will be

- a) lighter
- b) stronger
- c) more variable

What direction does the wind blow around a depression (low pressure) in the Northern Hemisphere?

- a) clockwise
- b) anticlockwise
- c) outwards

On a cold front what is the warm air being replaced by?

- a) Warmer air
- b) colder air
- c) hotter air

In the UK in winter, an easterly wind will often bring weather which is?

- a) cold and dry
- b) cool and cloudy
- c) cold and wet

On the east coast in winter, a northeasterly wind will often bring weather which is?

- a) Warm and showery
- b) cold and dry
- c) cold and showery

An occlusion is the meeting up of which 2 fronts?

- a) 2 cold fronts
- b) warm and cold front
- c) 2 warm fronts

Using the wind direction as a predictor of the weather is only useful if for some time the wind has been?

- a) strong
- b) light
- c) from the same direction

Which way does the wind blow compared to the isobars on a weather map?

- a) left to right
- b) right to left
- c) almost parallel

What direction does the wind blow around an anticyclone (high pressure) in the Northern Hemisphere?

- a) clockwise
- b) anticlockwise
- c) inwards

Short lived increases in the wind speed are known as?

- a) peaks
- b) troughs
- c) gusts

It is rare for pressure to reach values higher than?

- a) 1050mb
- b) 1060mb
- c) 1070mb

A ridge is similar to?

- a) an anticyclone
- b) a depression
- c) cold front

Weather Charts

In the Northern Hemisphere, winds blow clockwise around

- a) anticyclones
- b) depressions
- c) anticyclones and depressions

In the Northern Hemisphere, winds blow anticlockwise around

- a) anticyclones
- b) depressions
- c) anticyclones and depressions

Isobars are lines joining areas of equal

- a) rainfall
- b) windspeed
- c) pressure

On a weather chart what would this symbol indicate?



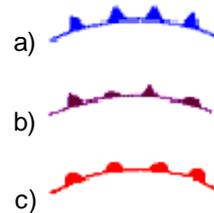
- a) A warm front
- b) an occlusion
- c) a cold front

On a weather chart what would this symbol indicate?



- a) A warm front
- b) an occlusion
- c) a cold front

On a weather chart, an occlusion would be indicated by which symbol?



What is the wind direction indicated on this station plot?



- a) Southwesterly
- b) Northwesterly
- c) Northeasterly

Question 8

What is the wind speed indicated on this station plot?



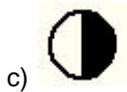
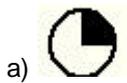
- a) 5 knots
- b) 15 knots
- c) 25kts

What is the wind speed indicated on this station plot?



- a) equipment faulty
- b) calm
- c) too windy to measure

Which of the following symbols shows 6/8th of cloud cover?



What is the weather like at a station with this symbol?



- a) snow
- b) rain
- c) drizzle

Snow showers are indicated by which symbol?



Isobars that are very close together indicate an area with?

- a) light winds
- b) no wind
- c) strong winds

Which of these is not normally experienced when a cold front passes over?

- a) Fall in temperature
- b) a change to showers
- c) wind backs

Which of these is not normally experienced when a warm front passes over?

- a) a band of rain
- b) a rise in temperature
- c) clear skies

Scores

Air Masses -----

Clouds -----

Weather Charts -----

Weather Instruments -----

Weather Maps -----

Weather Observations -----

Total Score -----