

## Σύννεφα και Θερμοκρασία

1. Χρησιμοποιήστε τα «φύλλα δεδομένων για τα σύννεφα» (P17b) και τα δελτία πληροφοριών «Είδη σύννεφων» (P17c) για να βρείτε ποια σύννεφα είναι στον ουρανό. Καταγράψτε τις παρατηρήσεις σας στον πίνακα.
2. Χρησιμοποιήστε το θερμόμετρο για να μετρήσετε τη θερμότητα του αέρα και τη θερμότητα του εδάφους ( άσφαλτος ή πλακόστρωτο) στην αυλή του σχολείου. Καταγράψτε τις μετρήσεις σας στον πιο κάτω πίνακα.

Ημερομηνία και ώρα: \_\_\_\_\_

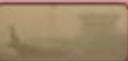



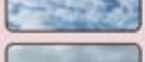
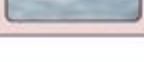
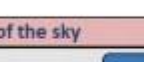
		Παρατήρηση / Μέτρηση	
<b>Σύννεφα</b>	Κάλυψη από σύννεφα		
	Χρώμα ουρανού		
	Είδος σύννεφων		
	Συνθήκες εδάφους		
<b>Θερμοκρασία</b>	Θερμοκρασία εδάφους		
	Θερμοκρασία αέρα		



## Φύλλα δεδομένων για τα σύννεφα

Ελέγξτε τις παρατηρήσεις σας. Σε ορισμένα κουτιά θα βρείτε ένα λευκό βέλος. Εάν έχετε σημειώσει σταυρό (+) σε αυτό το πλαίσιο, πηγαίνετε στο επόμενο πλαίσιο που δείχνει το βέλος. Εάν όχι, μπορείτε να παραλείψετε αυτό το κουτί.



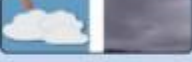


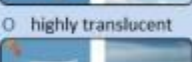

**1. What do you see in the sky?**

Degree of coverage (clouds, vapor trails)		<input type="radio"/> fog		<input type="radio"/> spray	
<input type="radio"/> darkened		<input type="radio"/> heavy rain		<input type="radio"/> smoke	
<input type="radio"/> nothing		<input type="radio"/> drifting snow		<input type="radio"/> dust	
<input type="radio"/> clear (<10%)		<input type="radio"/> heavy snowfall		<input type="radio"/> mist	
<input type="radio"/> isolated (10-25%)		<input type="radio"/> sand		<input type="radio"/> volcanic ashes	
<input type="radio"/> scattered clouds (25-50%)		<b>Move on to box 6.</b>			
<input type="radio"/> broken cloud cover (50-90%)					
<input type="radio"/> overcast sky (90-100%)					

**2. Color and visibility of the sky**

<b>Color</b>	<input type="radio"/> sky invisible	<input type="radio"/> deep blue	<input type="radio"/> blue	<input type="radio"/> light blue	<input type="radio"/> pale blue	<input type="radio"/> milky
<b>Visibility</b>	<input type="radio"/> sky invisible	<input type="radio"/> very clear	<input type="radio"/> clear	<input type="radio"/> slightly hazy	<input type="radio"/> very hazy	<input type="radio"/> extremely hazy

**3. High clouds and condensation trails**

<input type="radio"/> No high clouds to be seen <b>Go to box 4.</b>	<b>Number of condensation trails that are ...</b>	<b>Degree of coverage</b>	<b>Opacity of the clouds</b>
<b>Type of clouds:</b>	<input type="radio"/> short-lived	<input type="radio"/> clear (<10%)	<input type="radio"/> opaque
<input type="radio"/> condensation trails (number)	<input type="radio"/> lasting, not scattered	<input type="radio"/> isolated (10-25%)	<input type="radio"/> slightly translucent
<input type="radio"/> cirrus	<input type="radio"/> lasting scattered	<input type="radio"/> scattered clouds (25-50%)	<input type="radio"/> broken cloud cover (50-90%)
<input type="radio"/> cirrocumulus		<input type="radio"/> broken cloud cover (50-90%)	<input type="radio"/> highly translucent
<input type="radio"/> cirrostratus		<input type="radio"/> overcast sky (90-100%)	
			
			
			





P17b

#### 4. Middle clouds

No middle clouds to be seen

Go to box 5.

Type of clouds:

altostratus



altocumulus



Degree of coverage

- clear (<10%)
- isolated (10-25%)
- scattered clouds (25-50%)
- broken cloud cover (50-90%)
- overcast sky (90-100%)

Opacity of the clouds

opaque



slightly translucent



highly translucent



#### 5. Low clouds

No low to be seen

Go to box 6.

Type of clouds:

fog



nimbostratus



cumulonimbus



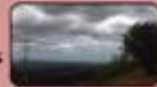
stratus



cumulus



stratocumulus



Degree of coverage

- clear (<10%)
- isolated (10-25%)
- scattered clouds (25-50%)
- broken cloud cover (50-90%)
- overcast sky (90-100%)

Opacity of the clouds

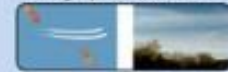
opaque



slightly translucent



highly translucent



#### 6. Conditions close to the ground

##### Mandatory

snow / ice      yes    no  
   



stagnant water         



boggy         



dry      yes    no  
   



trees with leaves         



it rains / snows         



##### Voluntary

temperature: \_\_\_\_\_ °C

air pressure: \_\_\_\_\_ mb

relative humidity: \_\_\_\_\_ %



## Είδη Σύννεφων

Γίνετε χρήση πέντε λέξεων για τον χαρακτηρισμό διαφορετικών τύπων σύννεφων:

**CIRRO** για σύννεφα σε πολύ μεγάλο υψόμετρο (υψηλά σύννεφα)

**ALTO** για σύννεφα σε μεσαίο υψόμετρο (μεσαία σύννεφα)

**CUMULUS** για φευγαλέα ή συσσωρευμένα σύννεφα

**STRATUS** για σύννεφα φύλλων

**NIMBUS** για σύννεφα βροχής



### High clouds 5-13 km



#### Cirrus

Feather clouds

**Shape:** fibrous or thread-like, formed by wind currents; stripes, bands, spots, sometimes bizarre structures

**Thickness:** very thin, sun shines through

**Color:** white, with a silky glimmer

**Info:** always consists of ice crystals

### Middle clouds 2-7 km



#### Altostratus

Rough fleecy clouds

**Shape:** stripes, spots, patchy layers; often arranged in banks

**Thickness:** moderately thick

**Color:** white or grey shades, partly pearlized

**Info:** consists of water drops, sometimes supercooled; diameter of cloud elements 1-5 $\mu$  (1-3 fingers on the outstretched hand)



#### Cirrocumulus

Fleecy clouds

**Shape:** fine white balls or flakes, thin, sometimes patchy, sheet-like

**Thickness:** very thin, sun shines through

**Color:** white  
**Info:** consists of ice crystals, rarely also of supercooled water drops; diameter always < 0.5 $\mu$  (pinkie on the outstretched hand)



#### Altostratus Middle sheet clouds

**Shape:** Dense layer cloud, often even and opaque, usually covering the entire sky

**Thickness:** moderately thick to thick

**Color:** grey or blue-grey

**Info:** no halos; if thick enough continuous rain / snow; consists of supercooled water; if sun visible then as through a frosted glass



#### Cirrostratus

High sheet clouds

**Shape:** Thin, milky, translucent cloud veil of hairy or fibrous appearance; covers large parts of the sky

**Thickness:** very thin, sun always shines through and is sharply defined

**Color:** light grey or whitish

**Info:** can cause halo appearances around moon and sun



#### Nimbostratus Rain clouds

**Shape:** Grey veil covering the entire sky, indistinct lower edge

**Thickness:** thick

**Color:** medium till dark grey

**Info:** consists of supercooled water, larger rain drops and snow crystals or snowflakes; causes continuous rain





## Low clouds 0-2 km



### Stratocumulus

Fleecy sheet clouds

**Shape:** mosaic-like plaices, rollers, or banks, sharply bounded or frazzled

**Thickness:** moderately thick

**Color:** grey or whitish

**Info:** consists of water or ice crystals; mostly no rain or snow; partly remainders of Stratus or Cumulus clouds

## Low clouds 0-2 km



### Cumulonimbus

Shower- or thundercloud

**Shape:** bulky and dense clouds shaped like a high mountain or tower, often with an anvil

**Thickness:** thick, looming

**Color:** lower side dark grey

**Info:** often brings thunderstorms (lightning, thunder, hail)



### Stratus

Low sheet clouds / high fog

**Shape:** grey even layer cloud (often high fog); lower edge usually low and rather difficult to detect

**Thickness:** thin to moderately thick

**Color:** light grey to dark grey

**Info:** seldom rain or snow; if sun visible then sharply outlined



### Fog

Stratus

**Info:** Fog is a cloud that touches the ground. You don't usually see what kind of cloud that is.



### Cumulus

Heap clouds

**Shape:** separate, sharply bounded clouds shaped like hills, knolls, or towers; lower edge flat

**Thickness:** moderately thick to thick

**Color:** shining white in sunlight

**Info:** seldom rain or snow, can be precursor of Cumulonimbus

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