

# English for Plant Biologists

**Lesson No. 3**

**Spring 2013**

Miloš Barták

Institute of Experimental Biology  
Plant Physiology and Anatomy  
University Campus Bohunice, Kamenice 5  
62500 Brno, Czech Republic

# Scanning electron microscopy

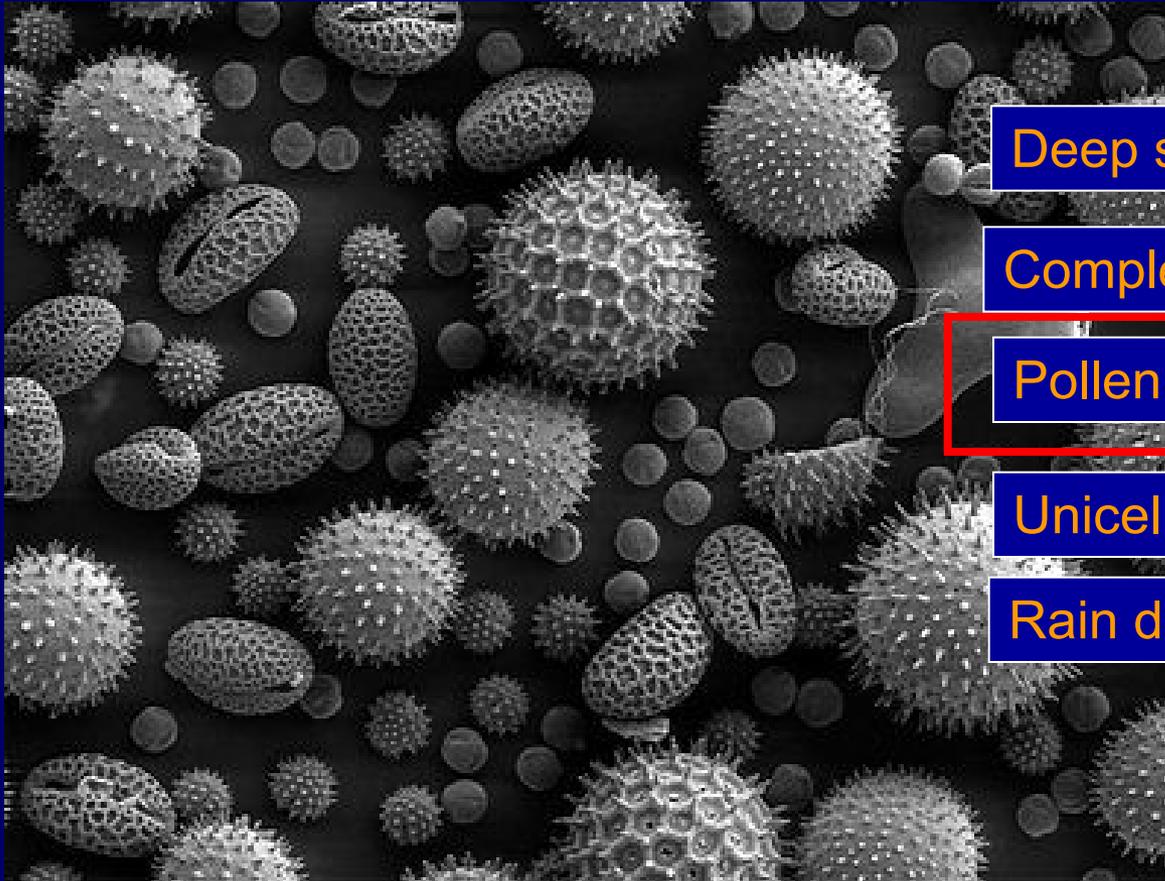
<http://www.medtropolis.com/VBody.asp>



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována  
Evropským sociálním fondem  
a státním rozpočtem České republiky

# What are the below objects ?



Deep sea invertebrates

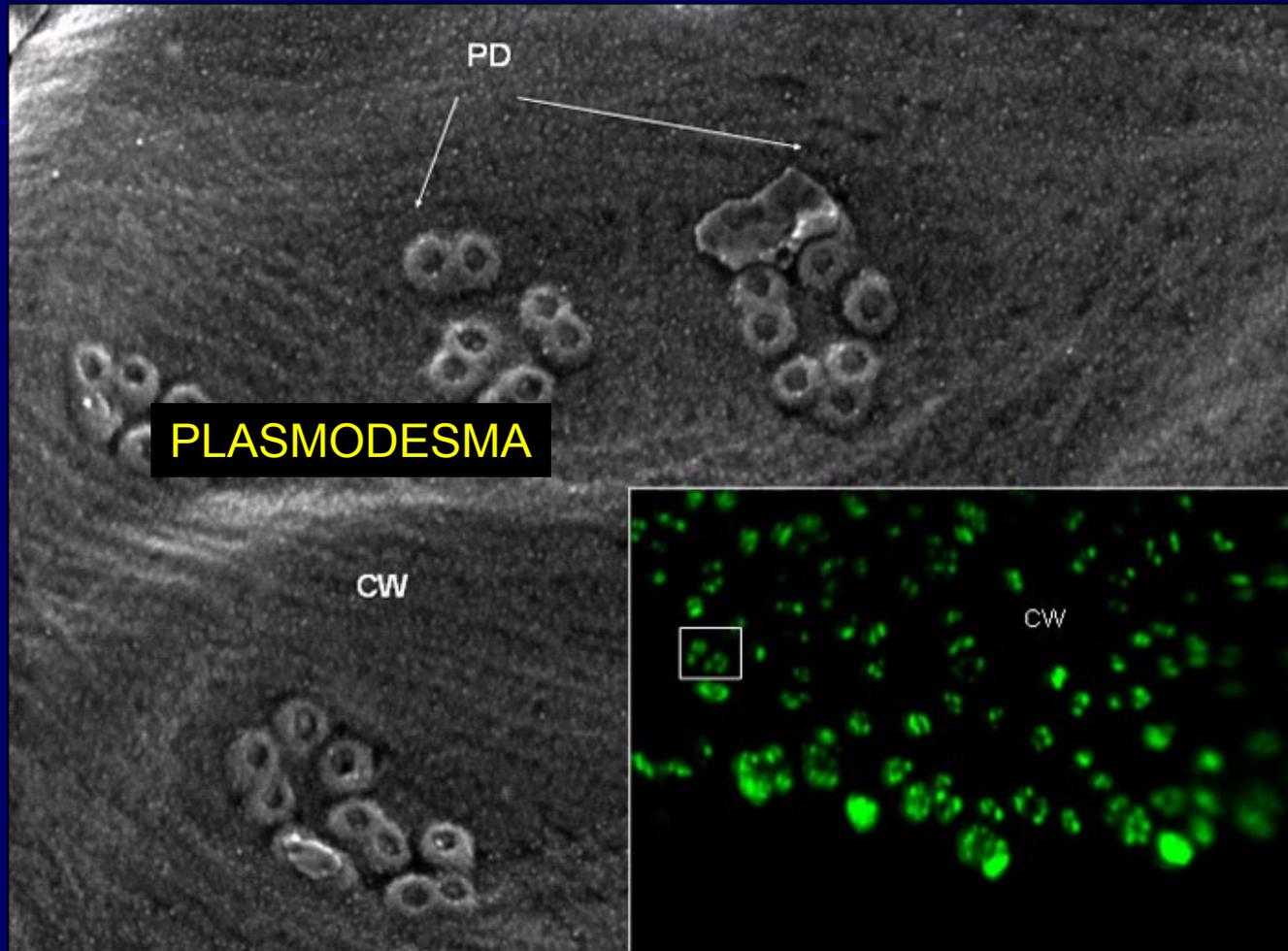
Complex trichomes

Pollen grains

Unicellular algae

Rain droplets

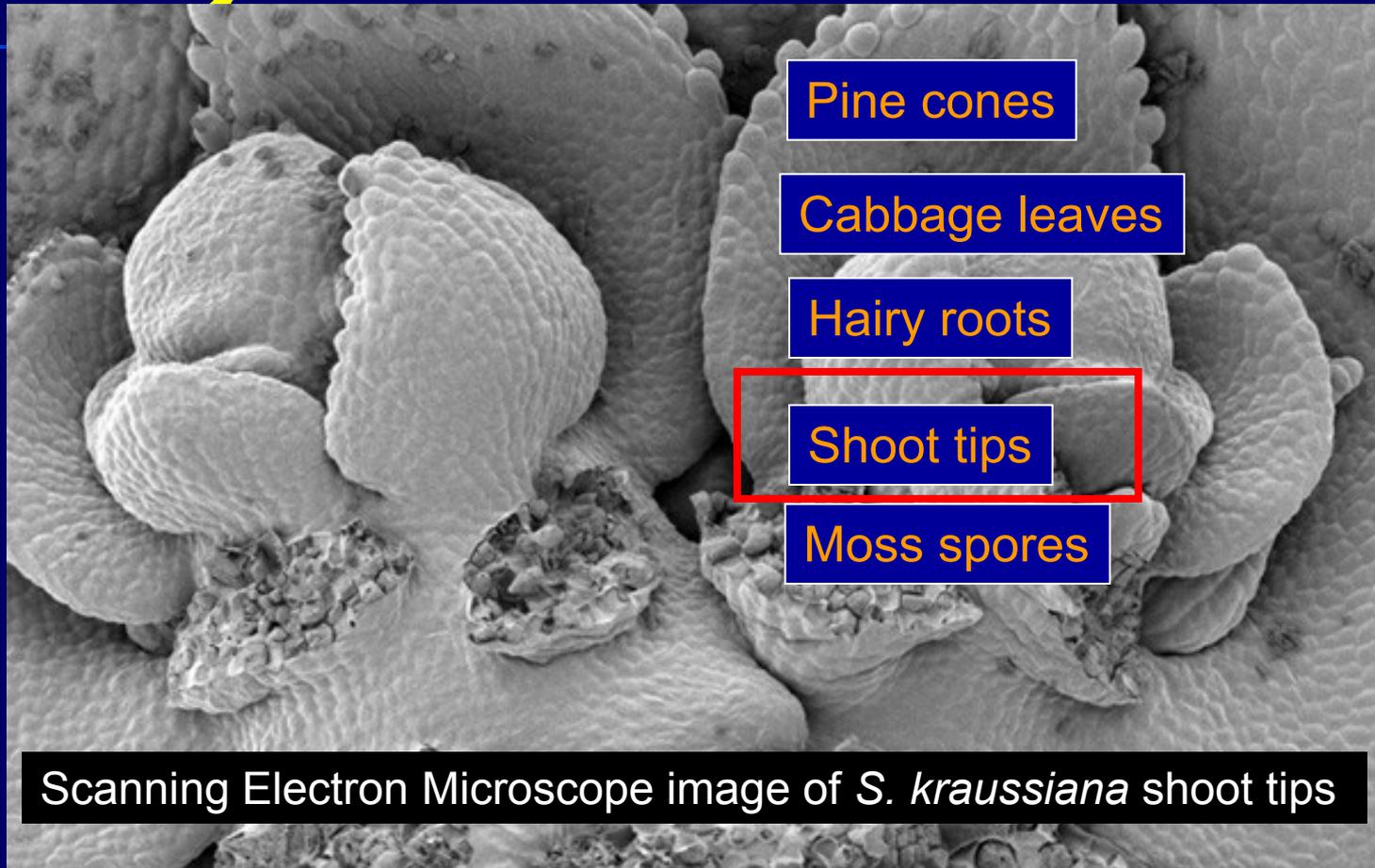
# What are the clustered objects ?



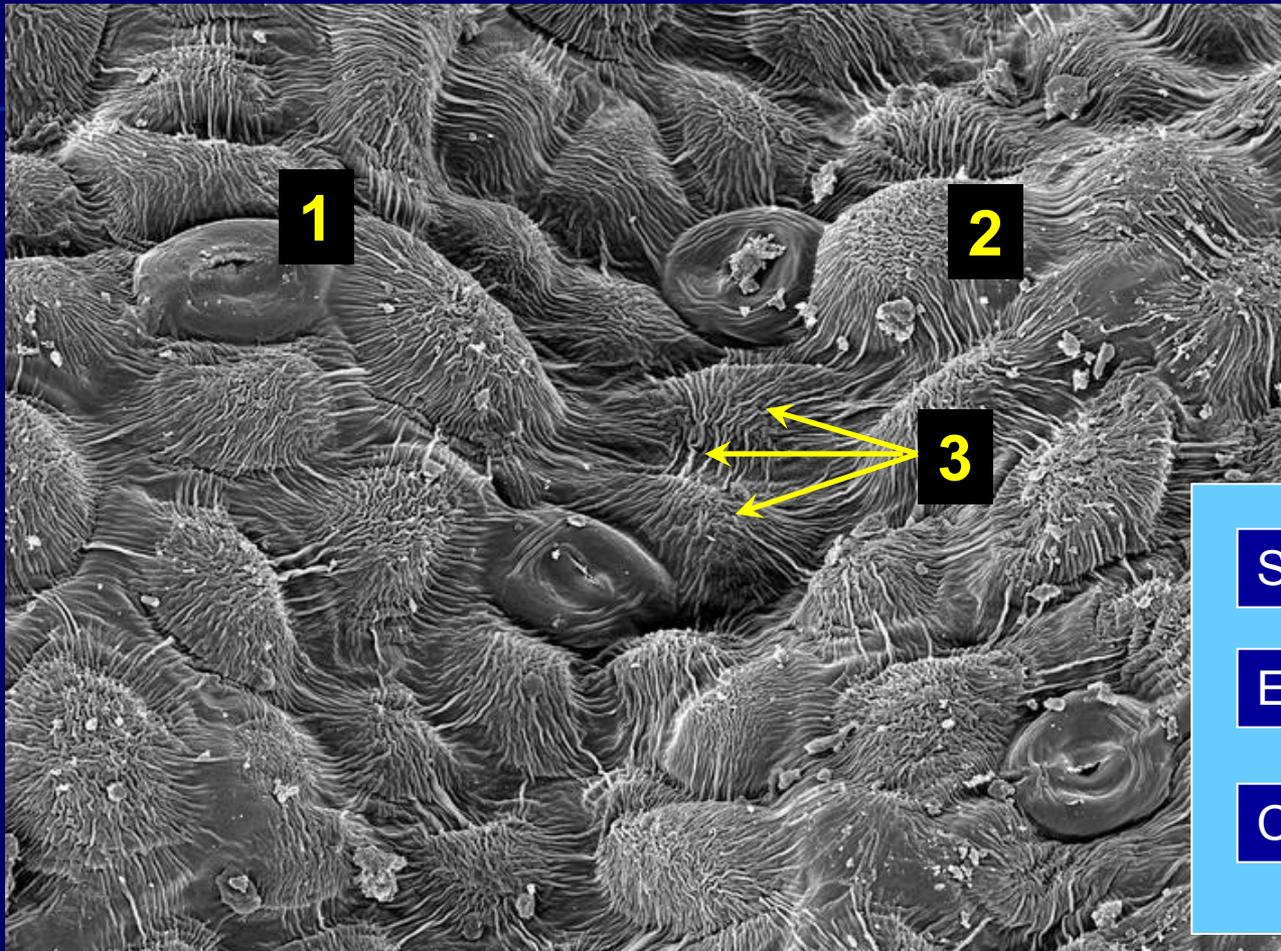
- CW = cell wall

Source of photo: <http://oparka.bio.ed.ac.uk/>

# What about this? What are you looking at?



**Please make your guess  
what is indicated by the numbers.**

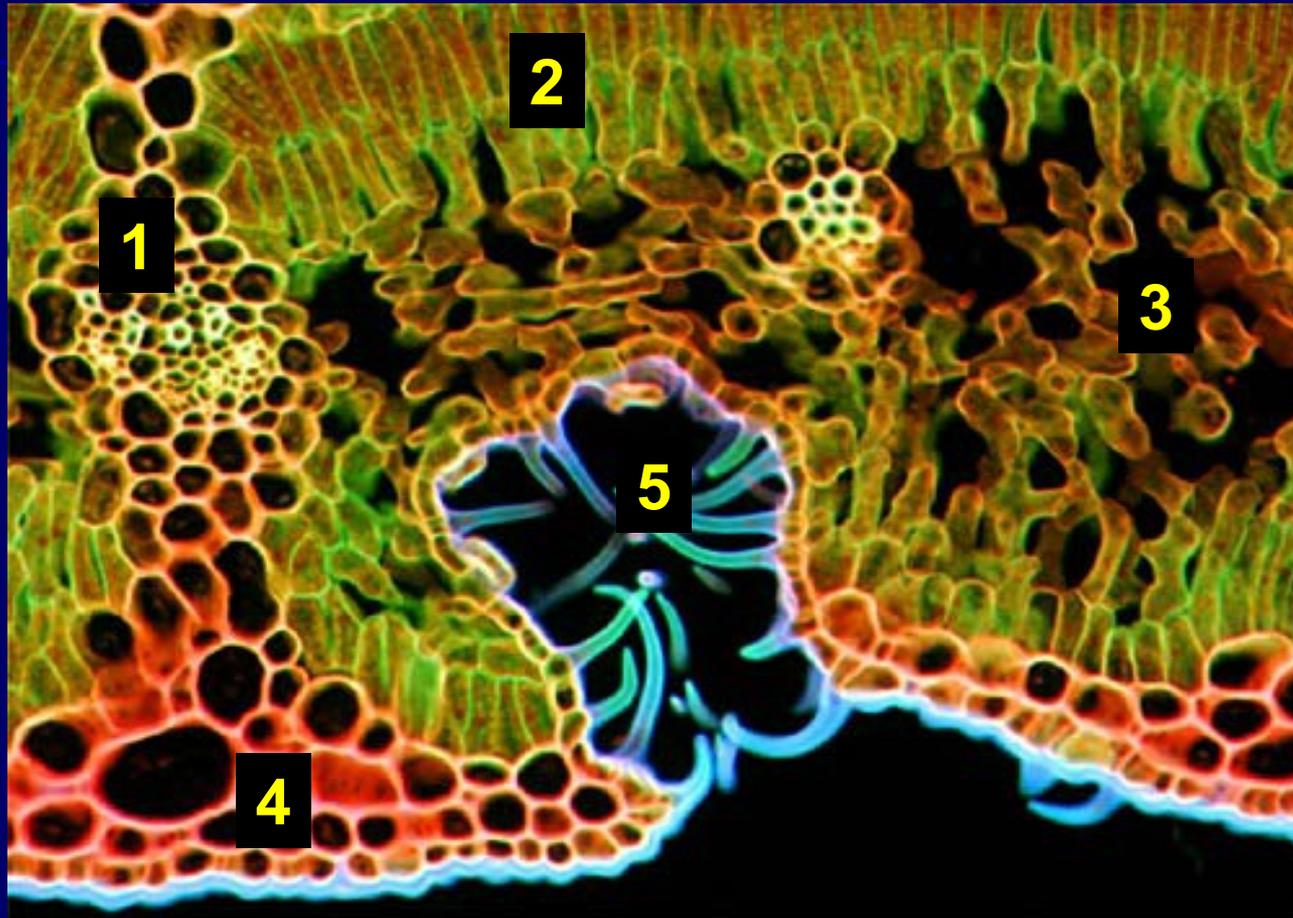


Stomatal cells

Epidermal cell

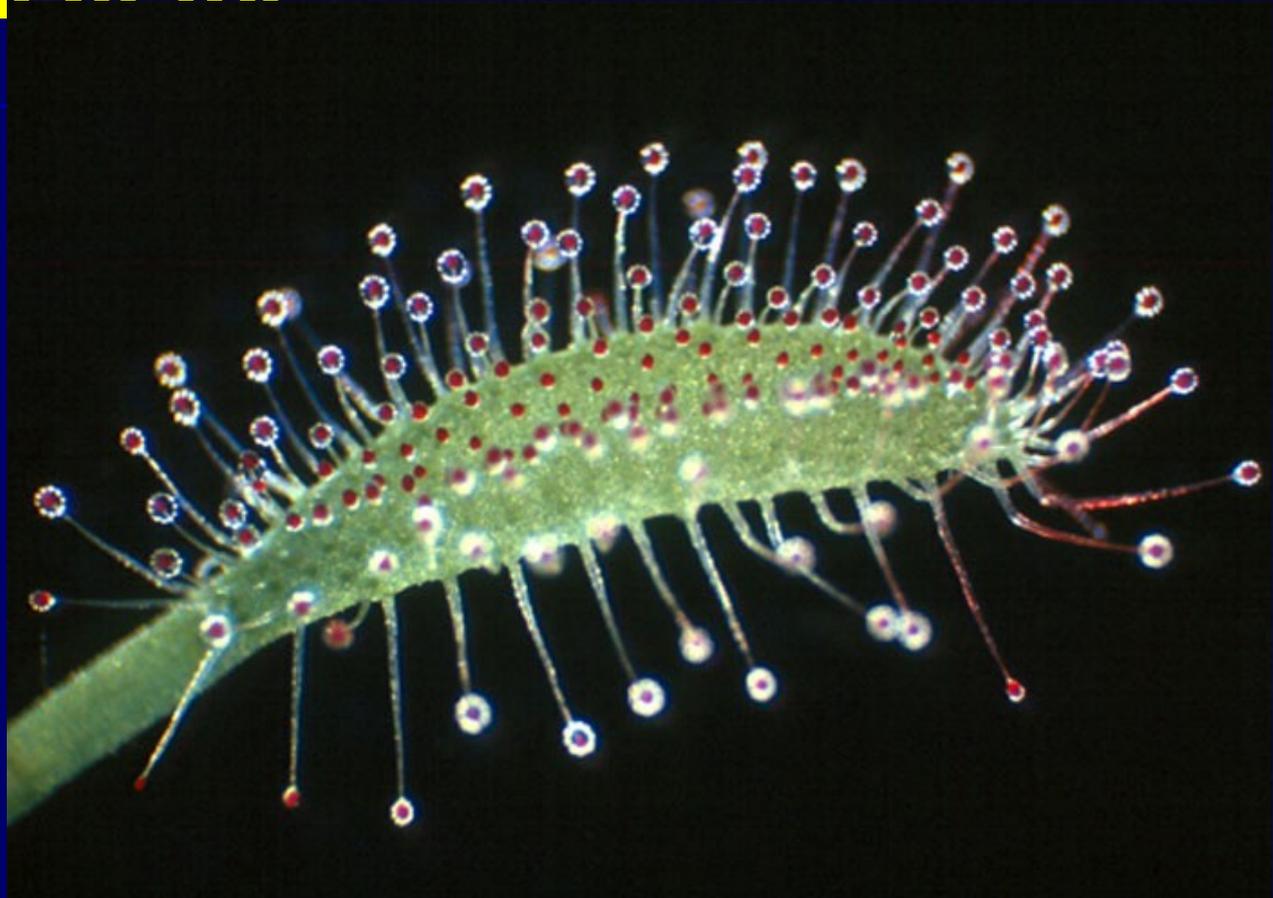
Cuticular wax

# Please tell me your opinion what relates to the numbers



- Oleander, *Nerium oleander*, is an ornamental evergreen plant
- Source of photo: <http://www.microscopyu.com/staticgallery/dxm1200/oleanderleaf.html>

# Please describe what is the the leaf for



- Source of photo: <http://www.microscopyu.com>

**This is something  
common.**



- Source of photo: <http://www.microscopyu.com>

**The only one of the following words fits**



Deconvulation

Demolition

Desertification

Denaturation

**The only one of the following words fits**



Restriction  
Recondition

Recuperation

Reforestation

# Describe what you see. What is your first impression?



It is a rice, of course.

# What do they harvest ?



- A peat is harvested from the bogs,

Source of photos: [http://www.turfdiag.com/rootzone\\_amendments.htm](http://www.turfdiag.com/rootzone_amendments.htm)

# Just practise your knowledge of prepositions and verbs

- How many people ..... **are there** ..... in your family?
- I get up at 8 o'clock ..... **in the** ..... morning.
- Where are you going ..... **on** ..... Friday?
- come to my party next Saturday?
- What ..... **did you do** ..... in London last weekend?  
(do)
- I'm going to Sainsbury's ..... **to buy** ..... some food.  
(Buy)

# Please fill in a proper form of the word: **agree**

■ I ..... him on that point.

■ I wish she would ..... my proposal. .

**agree with,**

**agree to**

*Phrasal verbs: source of exercise: [http://www.englisch-hilfen.de/grammar/phrasal\\_verbs.htm](http://www.englisch-hilfen.de/grammar/phrasal_verbs.htm)*



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována  
Evropským sociálním fondem  
a státním rozpočtem České republiky

Please fill in a proper form of the word:

**get**

- When will you .....
- I tried calling you, but I couldn't .....
- Today I ..... at 10 am

**get back,**

**get through**

**got up**

Phrasal verbs: source of exercise: [http://www.englisch-hilfen.de/grammar/phrasal\\_verbs.htm](http://www.englisch-hilfen.de/grammar/phrasal_verbs.htm)



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována  
Evropským sociálním fondem  
a státním rozpočtem České republiky

Please fill in a proper form of the word:

give

- He ..... his car ..... to his brother
- Why does she always ..... her brother?
- Are you sure you want to ..... your career?

**gave ... away,**

**give to**

**give up**

Phrasal verbs: source of exercise: [http://www.englisch-hilfen.de/grammar/phrasal\\_verbs.htm](http://www.englisch-hilfen.de/grammar/phrasal_verbs.htm)



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována  
Evropským sociálním fondem  
a státním rozpočtem České republiky

# Please translate

- Brad Ripley is a plant ecophysiologicalist, specialising in the ecophysiology and ecology of: Coastal sand-dune plants, alien vegetation, and indigenous and crop plants as effected by environmental and biotic factors.

Please learn the two words if they are unknown for you.

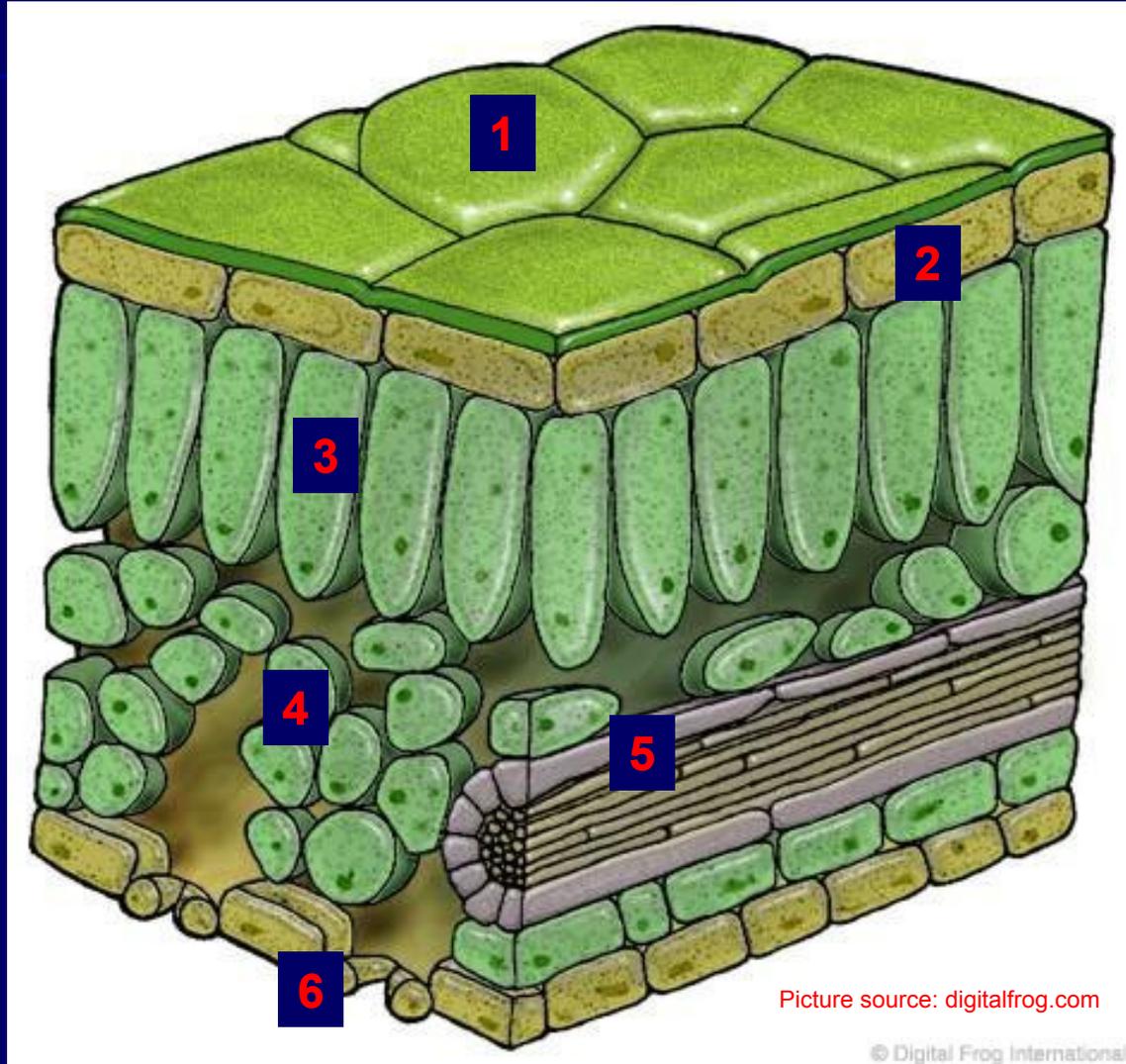
Source of the text: <http://www.ru.ac.za/Botany/Staff>



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována  
Evropským sociálním fondem  
a státním rozpočtem České republiky

# It is a good idea to check your knowledge of plant anatomy, isn't it?

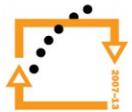


Picture source: digitalfrog.com

© Digital Frog International



EVROPSKÁ UNIE



Please read and associate with some plant part

weeding  
wedding  
willing  
wilting  
warning  
warming  
winding  
welling  
whaling



Please find out to what picture the term is related.

# What is the two-wheel vehicle for?

Lawn, of course

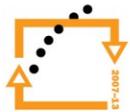


Do you know how to call the vehicle in English?

Do you know how to call all the green all around?

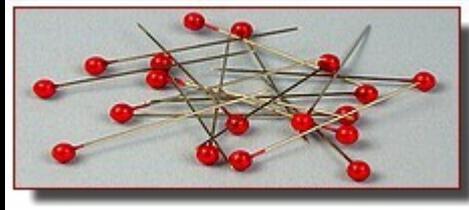


EVROPSKÁ UNIE



It is a repetition of vocabulary that you should know.

primate  
private  
pinhead  
pinnate  
pancake  
panther  
pathfinder  
pimiento



Please find out to what picture the term is related.

sources: pin.primate.wisc.edu, <http://www.autotodays.com/2010/09/20/2011-nissan-pathfinder/>, atlanka.net, tastydays.com

**Ladies and gentlemen,  
thank you for your attention**

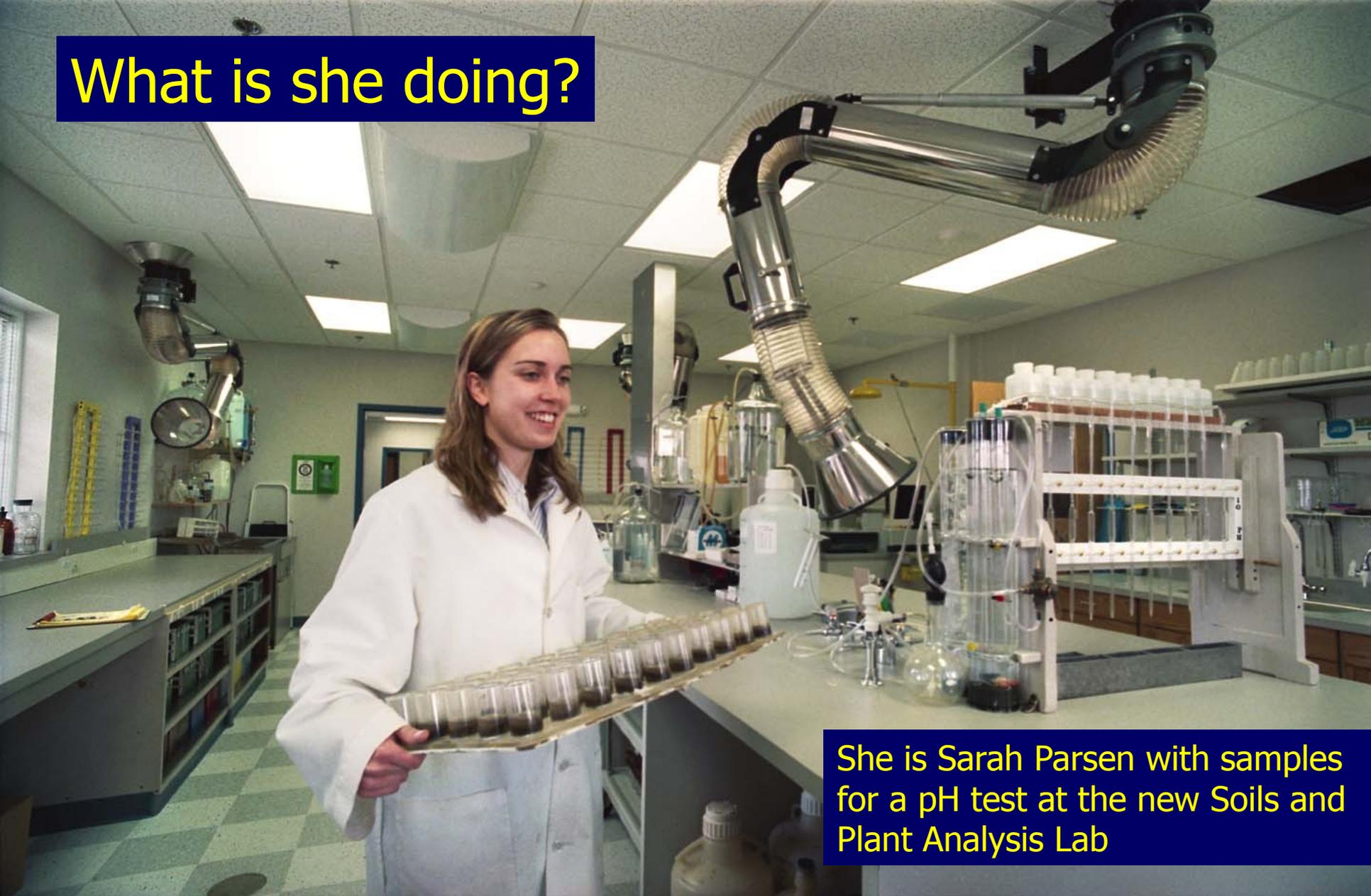
**See you next week.**



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována  
Evropským sociálním fondem  
a státním rozpočtem České republiky

What is she doing?



She is Sarah Parsen with samples for a pH test at the new Soils and Plant Analysis Lab

Source: <http://news.cals.wisc.edu/photos/photo419.jpg>

# What is that for ?



- <http://ultra-health.org/wp-content/uploads/2009/02/lidia.jpg>



**This is Chris Still doing something. What is that?**

Chris Still measuring photosynthesis in *Eragrostis grandis*, a C4 grass endemic to the Hawaiian Islands

# mangrove



<http://www.floridaadventuring.com/images/red-mangrove.jpg>

The  
forest type is  
called...



<http://www.susanscott.net/OceanWatch2008/images/P1110359.jpg>

# Describe, what you see.



Source: [http://www.europe-center.org/ec-blog/wp-content/blogs.dir/2/files/2008/08/080331\\_cutting\\_trees\\_06\\_rkk\\_send.jpg](http://www.europe-center.org/ec-blog/wp-content/blogs.dir/2/files/2008/08/080331_cutting_trees_06_rkk_send.jpg)

# This is experimental breeding station. What do they breed?

Raspberry, of course.



Source: [http://www.cals.ncsu.edu/hort\\_sci/highlights/raspberry01l.jpg](http://www.cals.ncsu.edu/hort_sci/highlights/raspberry01l.jpg)



# What do you think is her field of study?

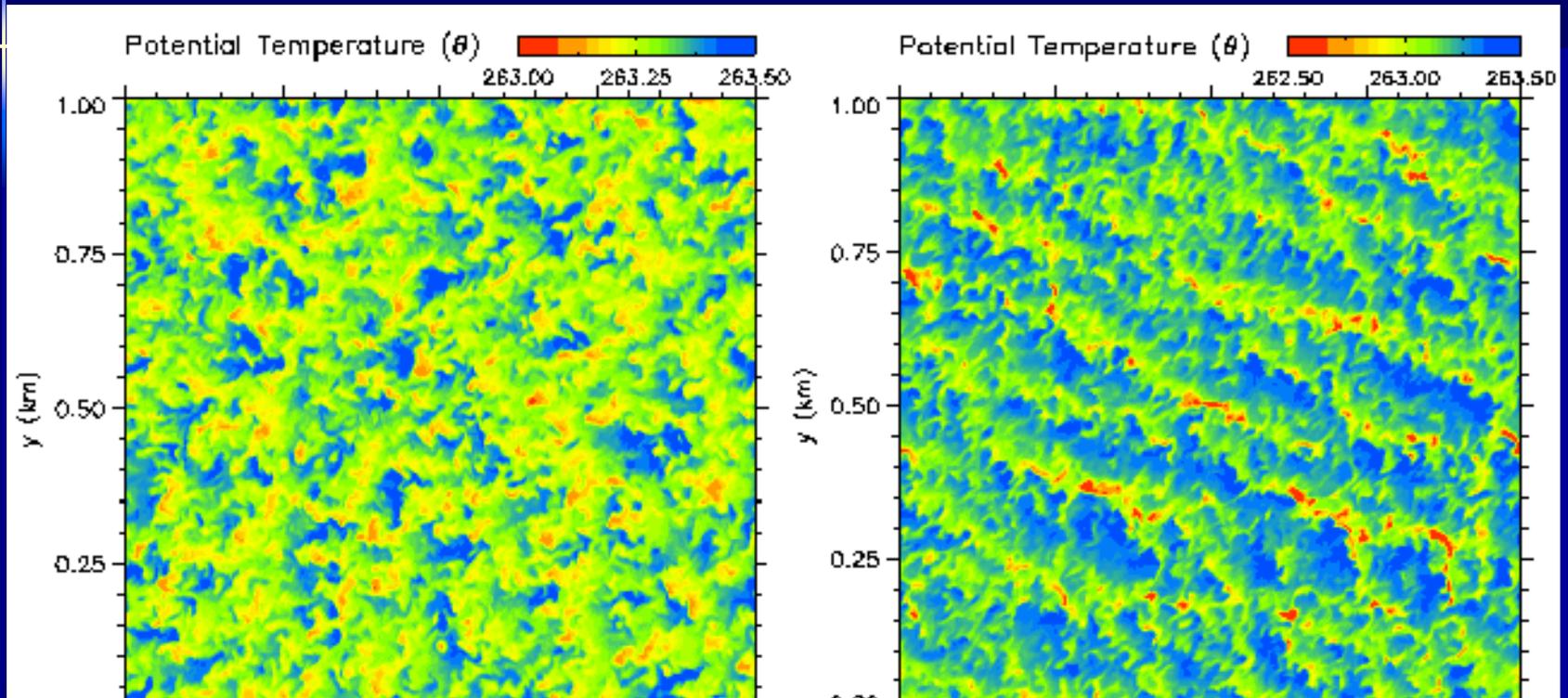
I am currently an Environmental Studies major and undergraduate researcher in the Damschen Lab. I am interested in plant ecology, especially in the effects of climate change on plants and plant communities. My current research focuses on patterns of plant stress along gradients of aspect and slope for mountainous systems in Southwestern Oregon

Source:

[biology4.wustl.edu/faculty/damschen/Barry.html](http://biology4.wustl.edu/faculty/damschen/Barry.html)

Canopy. Source: [www.asr.ucar.edu/2004/MMM/img/patton\\_surface2.png](http://www.asr.ucar.edu/2004/MMM/img/patton_surface2.png)

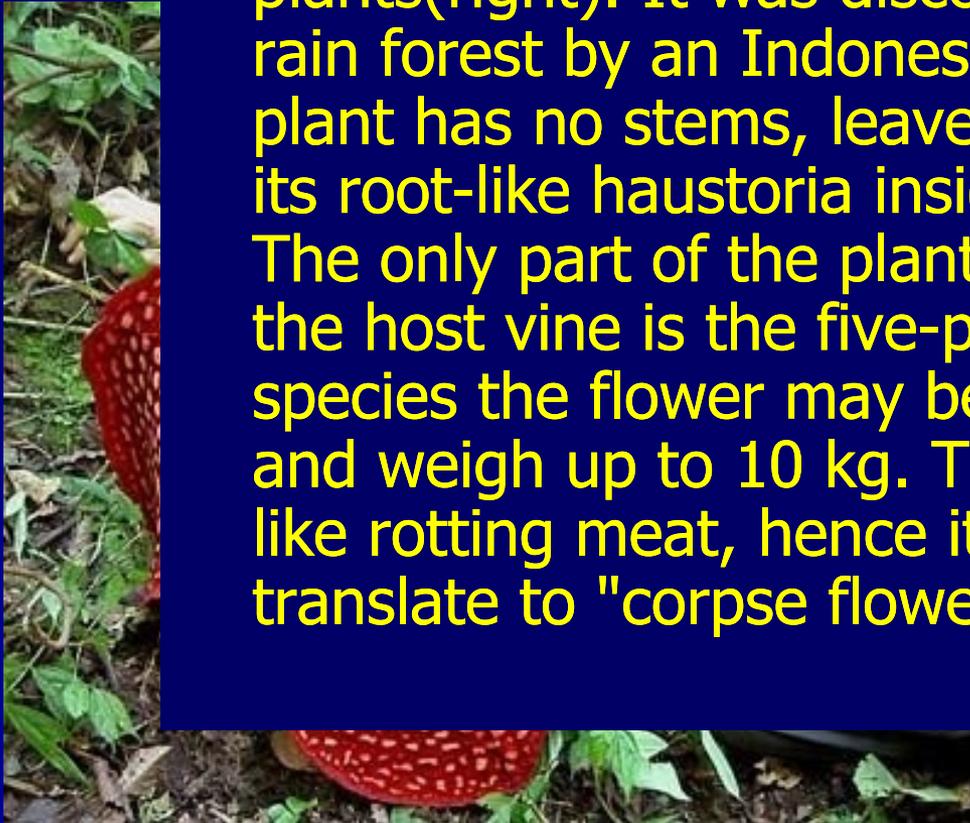
# What are you looking at?



Using high-resolution large-eddy simulations, E. Patton and Peter Sullivan are investigating the interplay between stable stratification and canopy turbulence. Compared to simulations with no vegetation, a stably stratified canopy reduces the height of the nocturnal jet and the pressure drag alters the momentum balance resulting in lower turbulence levels

# Some strange plants

- Rafflesia is a genus of parasitic flowering plants(right). It was discovered in the Indonesian rain forest by an Indonesian guide in 1818. The plant has no stems, leaves or true roots. It spreads its root-like haustoria inside the tissue of a vine. The only part of the plant that can be seen outside the host vine is the five-petaled flower. In some species the flower may be over 100 cm in diameter, and weigh up to 10 kg. The flowers look and smell like rotting meat, hence its local names which translate to "corpse flower" or "meat flower".



# What is she doing?



- Cornell Student Taran Sirvent prepares *Hypericum perforatum* for chemical analysis. A glass funnel directs the plant matter into an Erlenmeyer flask.

# Lesson No. 8

- Repetition:
- terminology related to negative effects of volcanic activity on plants
- What are they doing?
- Exercises