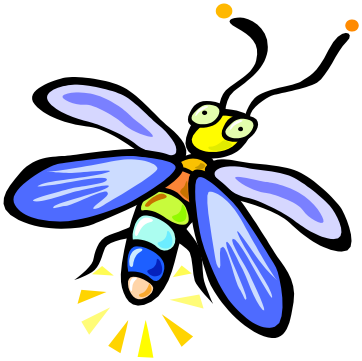
centre de développement pédagogique
pour la formation générale en science et technologie

THEORETICAL AND PRACTICAL CAPSULE

(This document is intended for adults)



Mechanical bugs

November 2009

HOW TO CLASSIFY THE GATHERED BUGS?

First, you must establish that the bugs belong to the animal kingdom, which is divided into branches. Each branch is itself divided into several classes, which are in turn divided into orders. Each order contains several families and each family, several species.

Bugs are a part of the arthropod branch (or phylum).

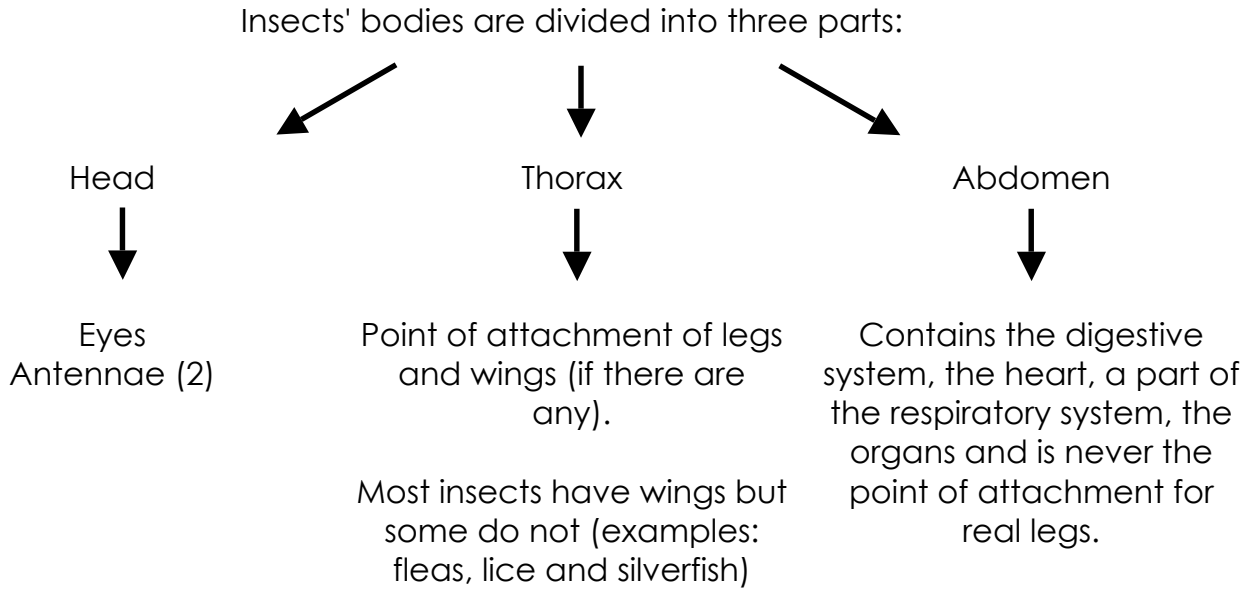
An arthropod is an invertebrate whose body is covered by a shell (exoskeleton or external skeleton) and whose legs, in the adult stage, are articulated.

Arthropods represent between 80 and 90% of known species in the animal kingdom.

As to insects…

Once the above has been established, all you need to do is to count the number of legs a bug has. That is how we determine the classification to which it belongs. An insect has six legs.

Here are other characteristics of an insect at the adult stage (basic model).



To identify the order to which the insect belongs, you must establish whether or not it has wings and if so, what type of wings.

The table that follows resumes insect classification well.

CLASSIFICATION

KINGDOM
Animal

PHYLUM
Arthropod

CLASSES

- Arachnid — 8 legs
- Insect — 6 legs
- Myriapoda — Between 30 and 750 legs
- Crustacean — 10 or 14 legs

ORDERS

Orthoptera	Lepidoptera	Diptera (Fly)	Coleoptera (Beetle)	Hymenoptera	Odonata
					
Their wings are straight	Their wings are covered by miniature scales.	They have only two true wings, the others are used for balance.	Their wings are protected by a protective case.	Their upper wings may be attached to the lower ones.	Their wings are membranous and usually transparent.

N.B. This organisational chart represents only a few of the most common orders. It has been adapted for the 2nd cycle of primary school.

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*These three books were indispensable in bringing this situation to life in class.

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La maison Léon Provancher: Deals with multiple scientific subjects
http://www.maisonleonprovancher.com/

Insects' life cycle
www.cs-renelevesque.qc.ca/primaire/oeuf_insecte/lecycle.html

Insects' house
http://seq.qc.ca/mdi/index.html

The world of insects
http://www.insecte.org/

Insects of Quebec
http://www.lesinsectesduquebec.com

Quebec insects' web (Section Galerie multimédia – jeu avec les sons des insectes)
http://www2.ville.montreal.qc.ca/insectarium/toile/nouveau/menu.php

Science file: fauna and flora
http://fauneetflore.haplosciences.com/dossiers.html

The monarch: a royal butterfly
http://darwin.cyberscol.qc.ca/Expo/Monarque/accueil.html

OPIE - On the path of insects: questions
http://www.insectes.org/opie/monde-des-insectes.html

Ladybugs and aphids (Available in English, but the content differs.)
http://pagesperso-orange.fr/dj/index.htm

Ants
http://membres.lycos.fr/alice/fourmis.html

Quick search index by order
http://www.lesinsectesduquebec.com/ordre.htm

Insectarium de Montréal : entomology, briefly
http://www2.ville.montreal.qc.ca/insectarium/toile/nouveau/menu.php?s-info&p=ento

BUGS (English)
http://animals.nationalgeographic.com/animals/bugs.html?source=G1806&kwid=insects|749966365

Capture methods
http://www.ornithoptera.net/guide/gcapt.html

Thematic entomology file (SPST)
http://www.spst.org/entomologie/webographie.html