

# 11b. Excretion

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## Pre-class materials

! Let's finish strong!

- Two more content discussions, then final student presentations.
- Everyone is so excited to watch your final presentations. Please sign up for a [\[presentation time\]](#)
- **Attendance is mandatory** at all remaining classes.
- **Come prepared by reading the book**, and our discussions can **probe deeper**. This will make your **homeworks**, **labs**, and **papers** so much easier.
- **Remember that effort counts**, and will be taken into account in the final grades. If your grade is on the borderline, effort will translate into a “bump up”. You show effort in many ways, including attendance and sincere participation.

## Announcements/Reminders

- Osmoregulation homework due Thursday at start of class. Last one! [\[schedule\]](#).
- [\[Design 3 final\]](#) due Friday by midnight.
- Please do TEAMMATES after Thursday.
- Last lab this week! **Prepare for the Human Renal Lab starting from the night before lab.** [\[lab 12\]](#)
- Design 4 is posted [\[suggestions\]](#) or feel free to pursue your own interests and design your own project! Due the week of finals.

## Week 14/15 Discussion Groups

Group	Partner 1	Partner 2	Partner 3
1	Abby	Adam	Vivian
2	Ilan	Veronica	Ashton
3	James	Christian	Sean
4	Hao	Kylee	Mohamad

## Tuesday

- Welcome back from Thanksgiving!
- [Excretion questions] [slide deck 1] [slide deck 2]
- Reading assignment: Withers skim pp. 841-845 (pick up the four main steps of Tubular Excretion), read 855- 874 (Vertebrate Kidneys) and pp. 874-886 (Nitrogen Metabolism) or HWA pp.754-776, 782-785.
- Nitrogenous waste comes from protein metabolism. Think about nitrogenous waste (osmoreg question 5) and what mechanisms organisms have for their excretion (excretion questions 1,2)

Table 2: Organs involved in osmoregulation

Group					
Fish	Kidneys	Gills	Bladder	Intestines	
Amphibians	Kidneys	Gills	Bladder	Intestines	Skin
Reptiles	Kidneys			Intestines	(Salt Glands)
Birds	Kidneys			Intestines	(Salt Glands)
Mammals	Kidneys				

Osmoregulation Podcast

<https://youtu.be/1vQxLFoPCmM>

## Thursday

- Bird and Reptile Excretion! We will have a fascinating discussion on reptile and bird excretion [notes]

## Next Week

- Begin Final Presentations