

A light blue icon of a microscope with a white insect silhouette inside the lens, positioned on the left side of the slide.

FROM FIELD TO FREEZER: A TISSUING WORKFLOW FOR GENETIC RESEARCH

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Natural History

Museums & Research



Ambrose Monell Cryo Collection (AMCC)

Mission-

To provide an accessible repository of frozen tissue samples, collected & maintained under rigorously controlled LN2 conditions to preserve as comprehensive a record as possible of the earth's biodiversity



AMCC Sample Storage

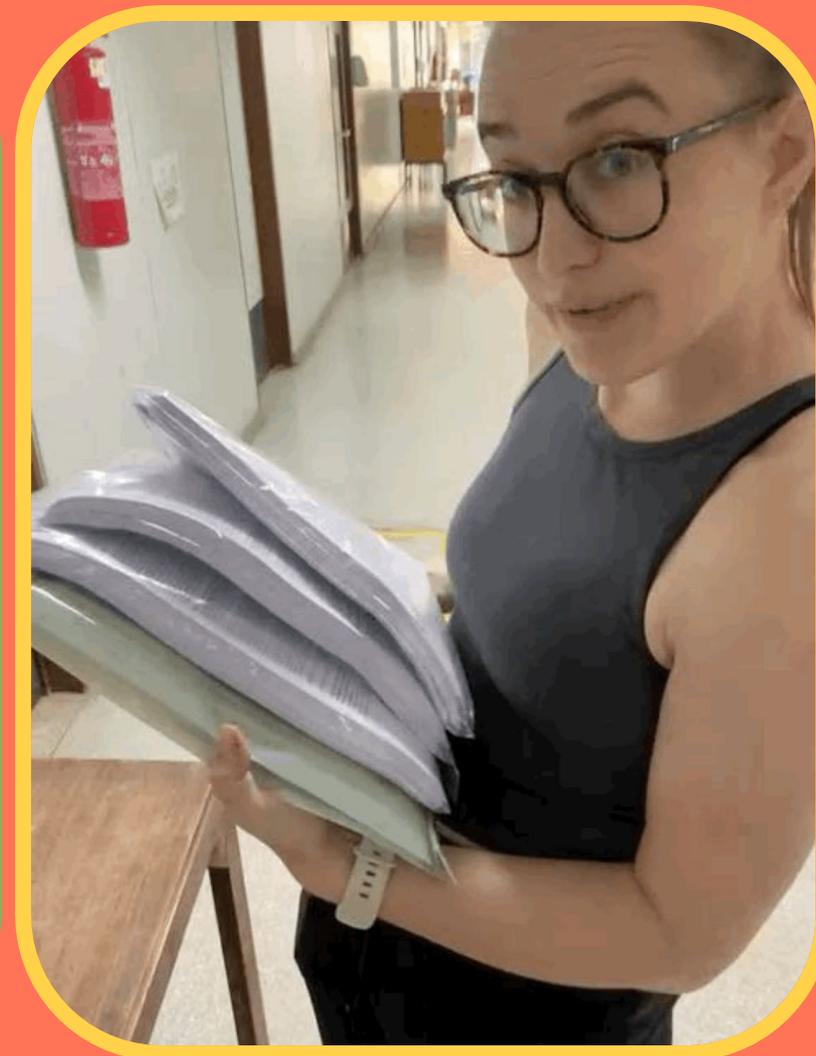
- Liquid nitrogen (LN2) vapor freezers
- Freezers are passive, heavily insulated & can withstand power outages
- Each freezer can hold 70,000 samples
- Nunc cryo vials w/ unique barcode
- Databased (Freezerworks)





- 130,000 tissues from 11,700 species
- 2,000 from National Park Service
- Collaborates w/ AMNH collections
- Centralized, accessible, searchable
- Prep loans & collecting kits

The Constituents



The AMCC



The AMCC



Priority- Long term LN2 storage & accessibility

- Nunc Cryo Vials
- Prefer flash freezing
- Avoid fluctuations
- Leave space in vials
- Submit clear electronic datasheet that matches box order



ISBER
Biobanking
Handbook

The Researchers



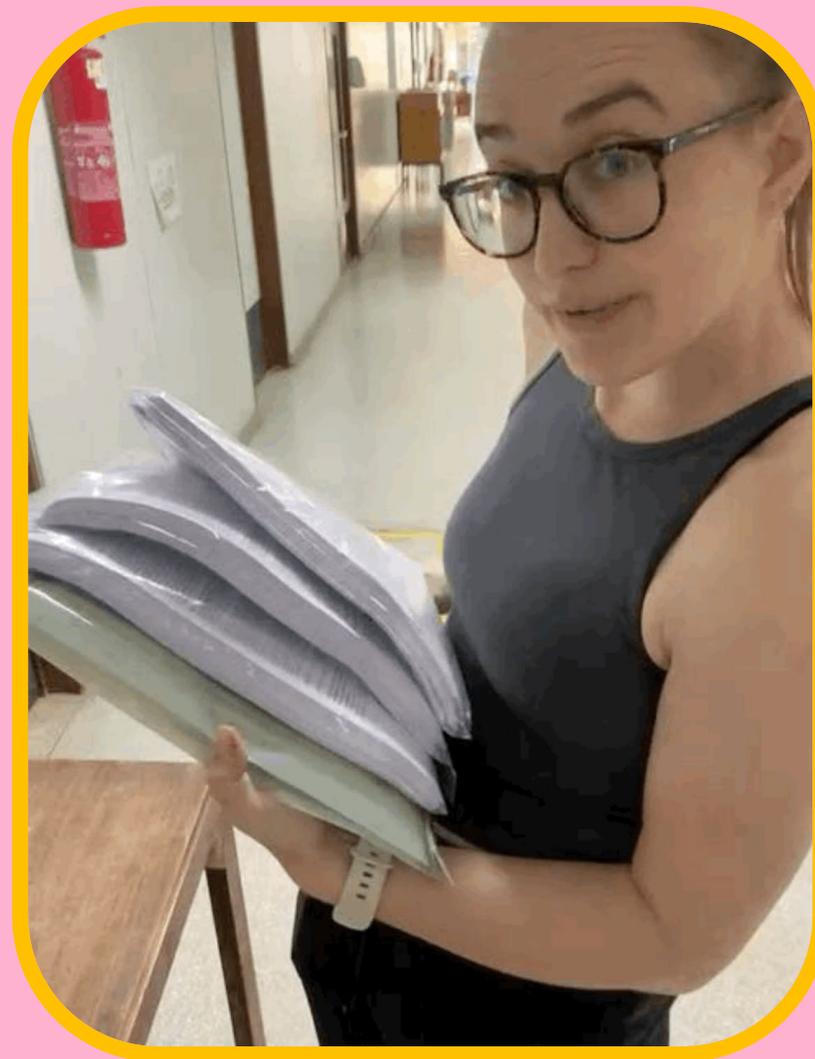
The Researchers

Priority-
Genomic
Data & ease
of access



- DNA
 - Liver- ETOH
- RNA
 - Organs- NAP
- Whole Genomes
 - Blood- EDTA

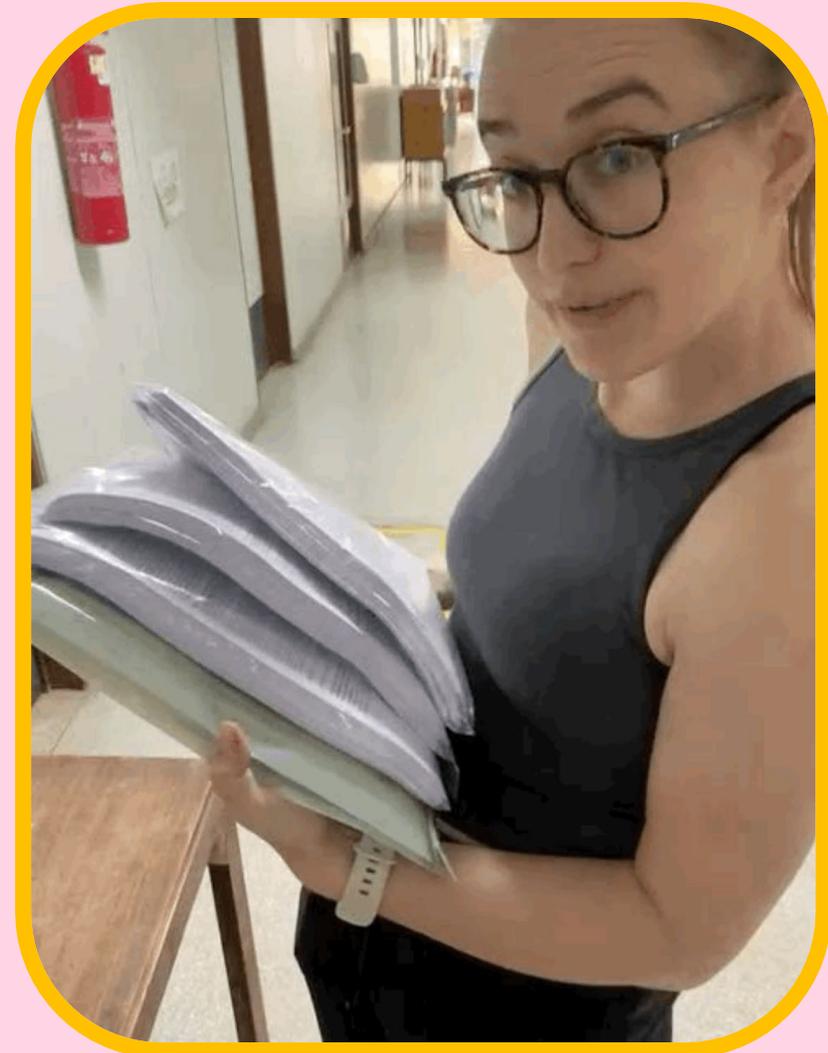
The Paperwork People



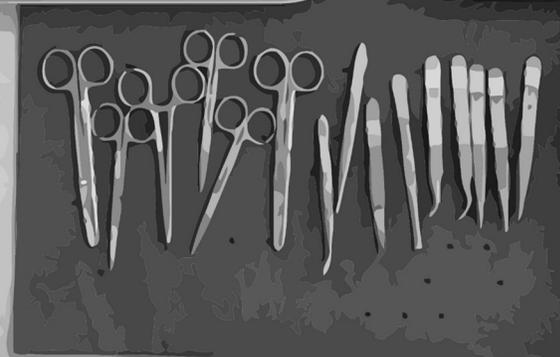
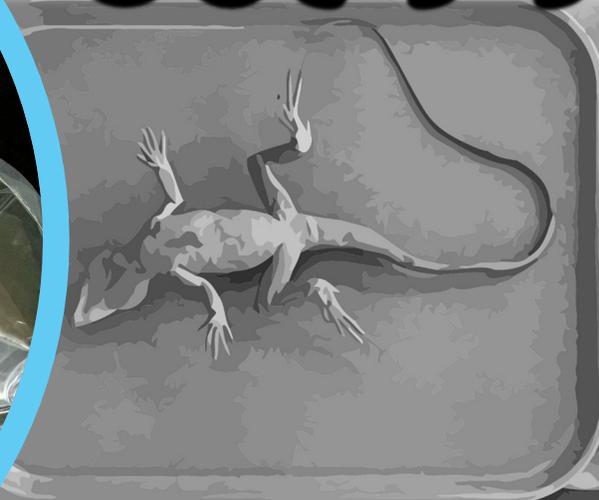
The Paperwork People

**Priority- Streamline
paperwork & cataloging**

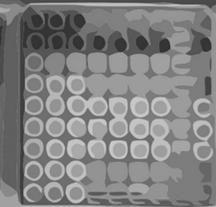
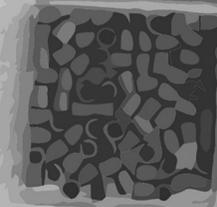
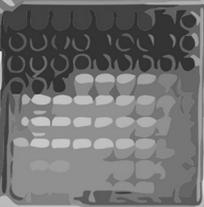
- MTAs/TTMs/3-177s
- Permitting
- Accessioning
- Cataloging



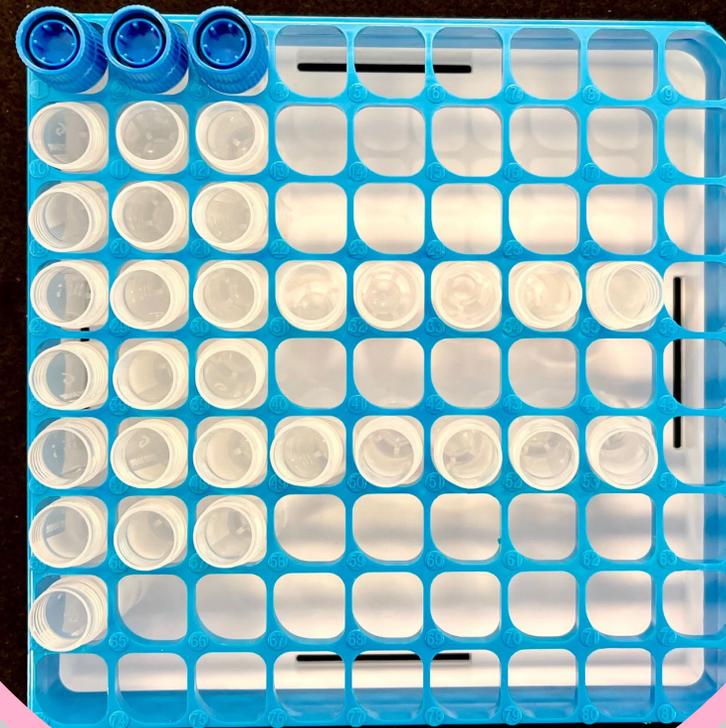
2. Sort the Animals

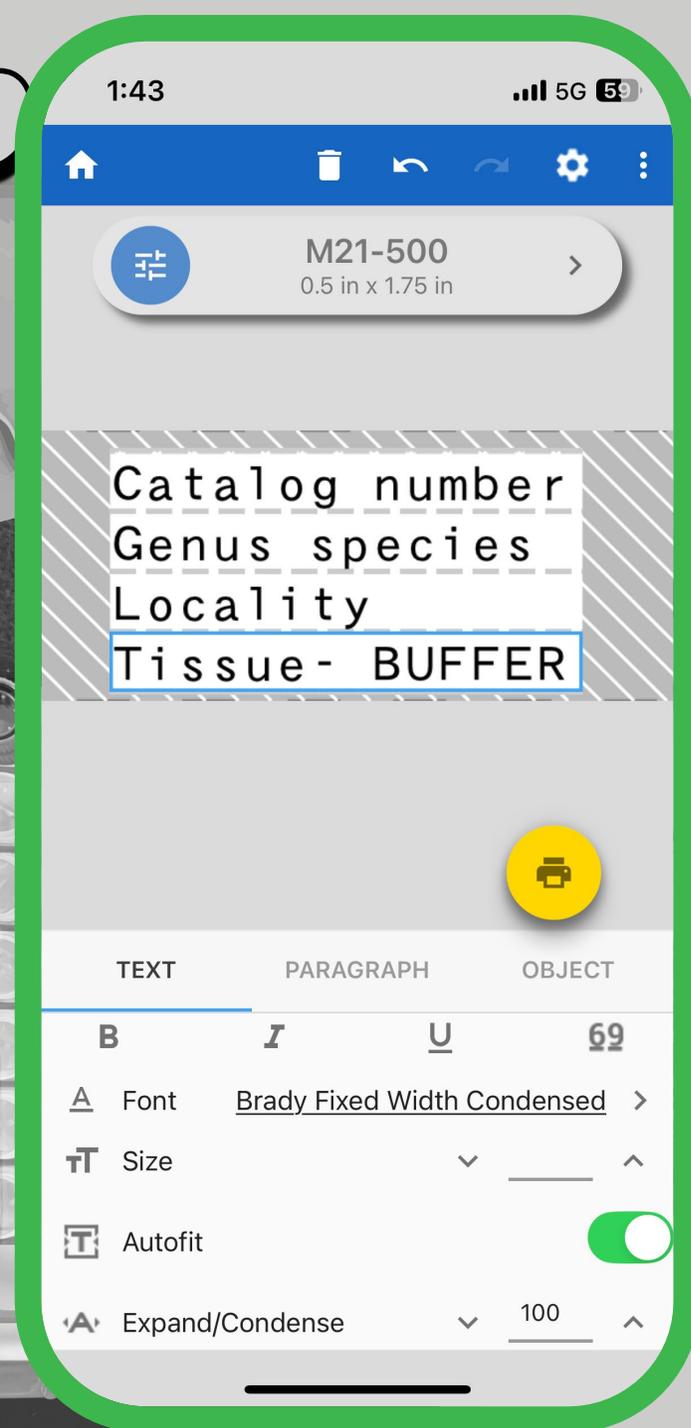
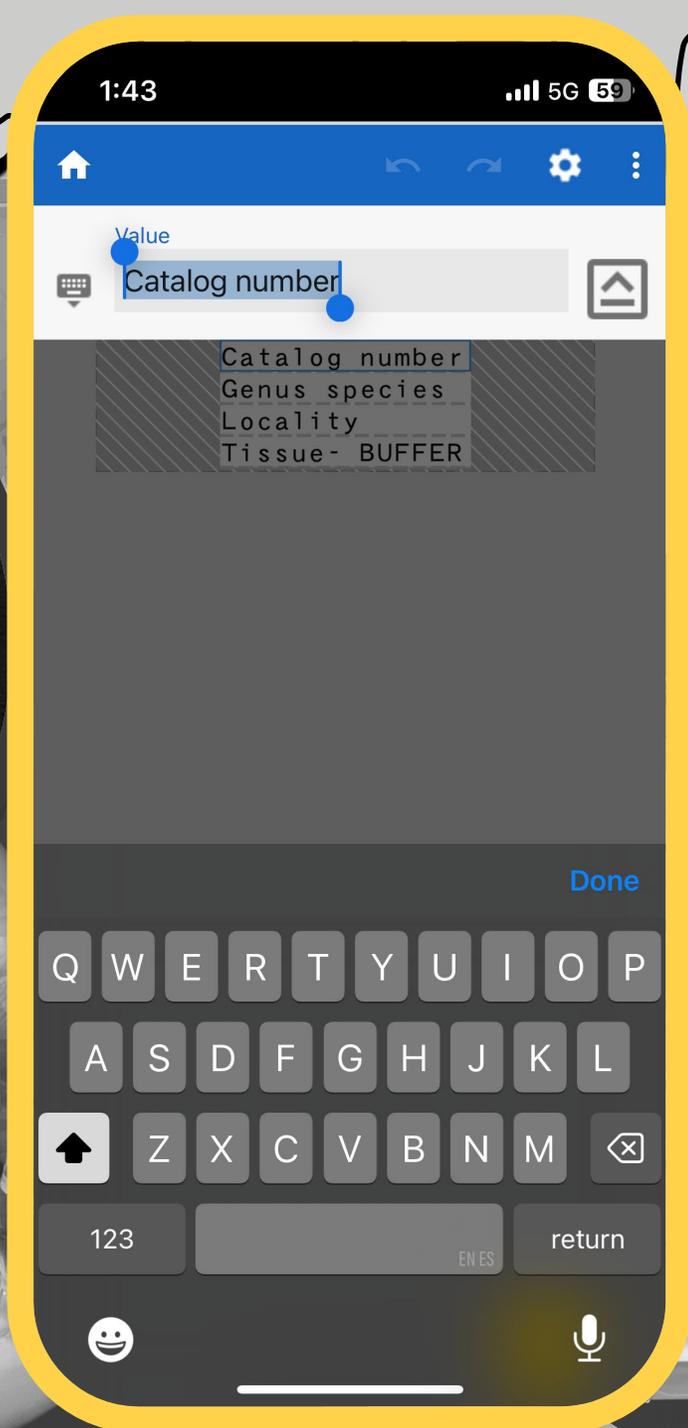
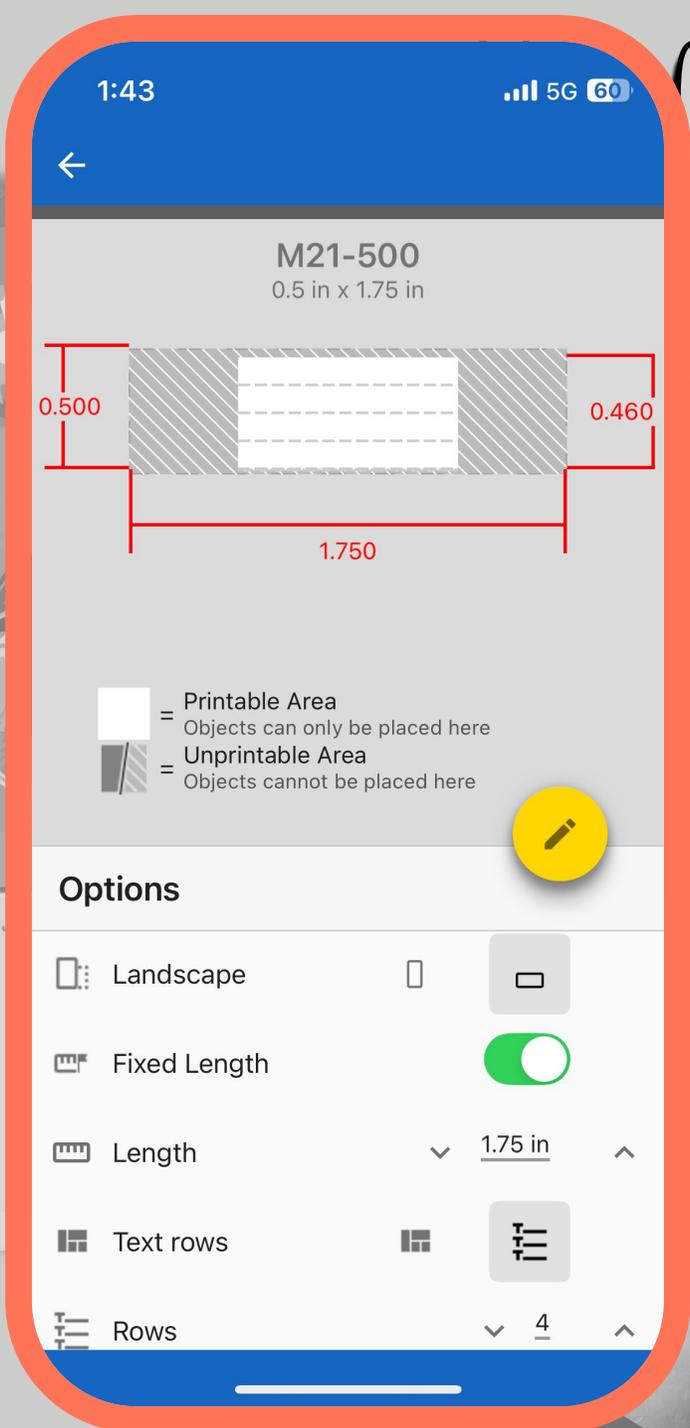


Experiment Date
Class No
Category of work - Part

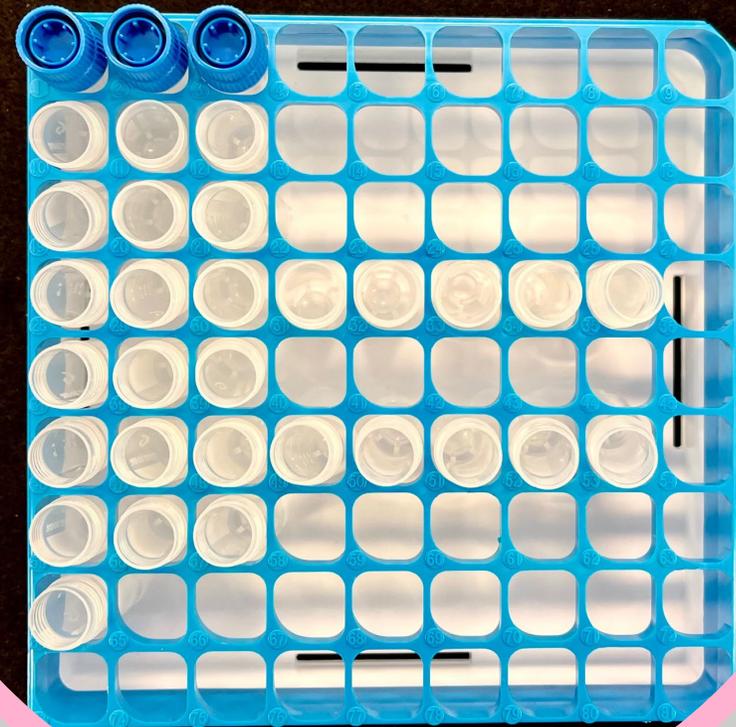


4. Label Tubes

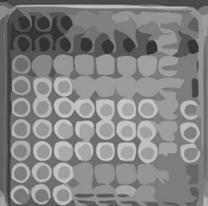
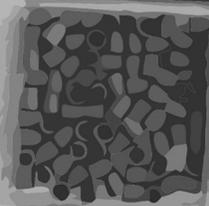
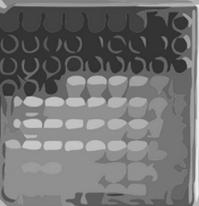
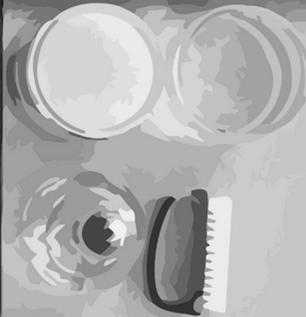
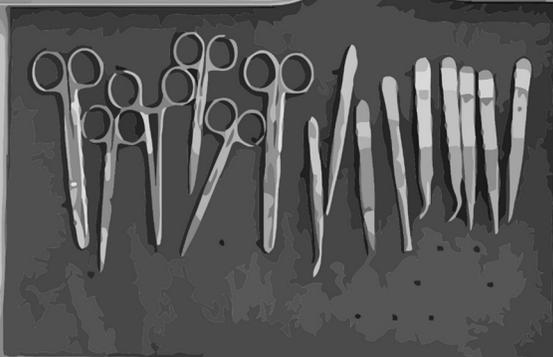
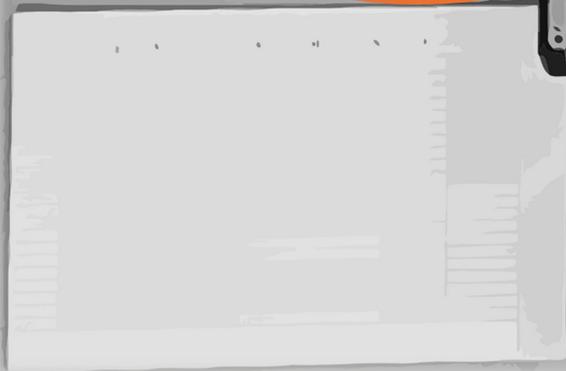
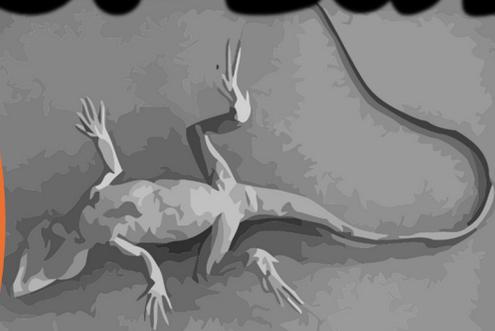


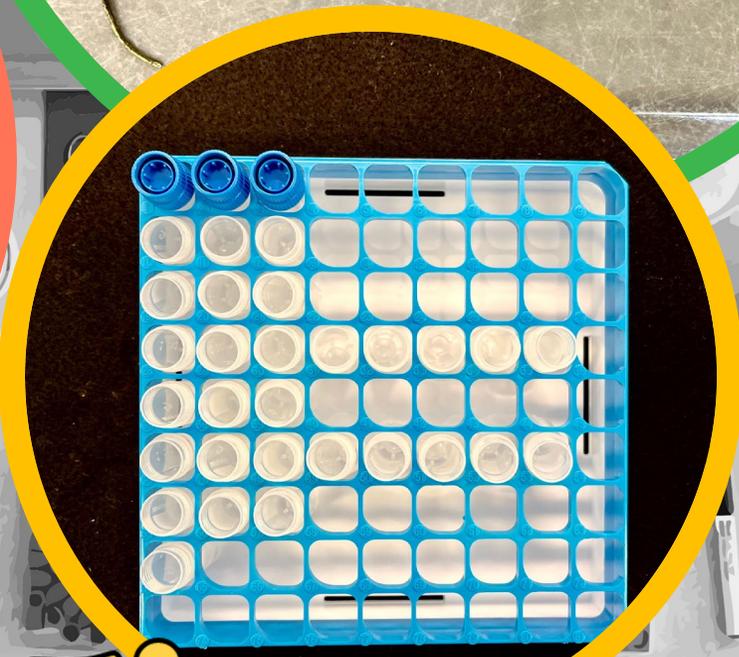


4. Label Tubes



5. Euthanasia





6. Process Tissues

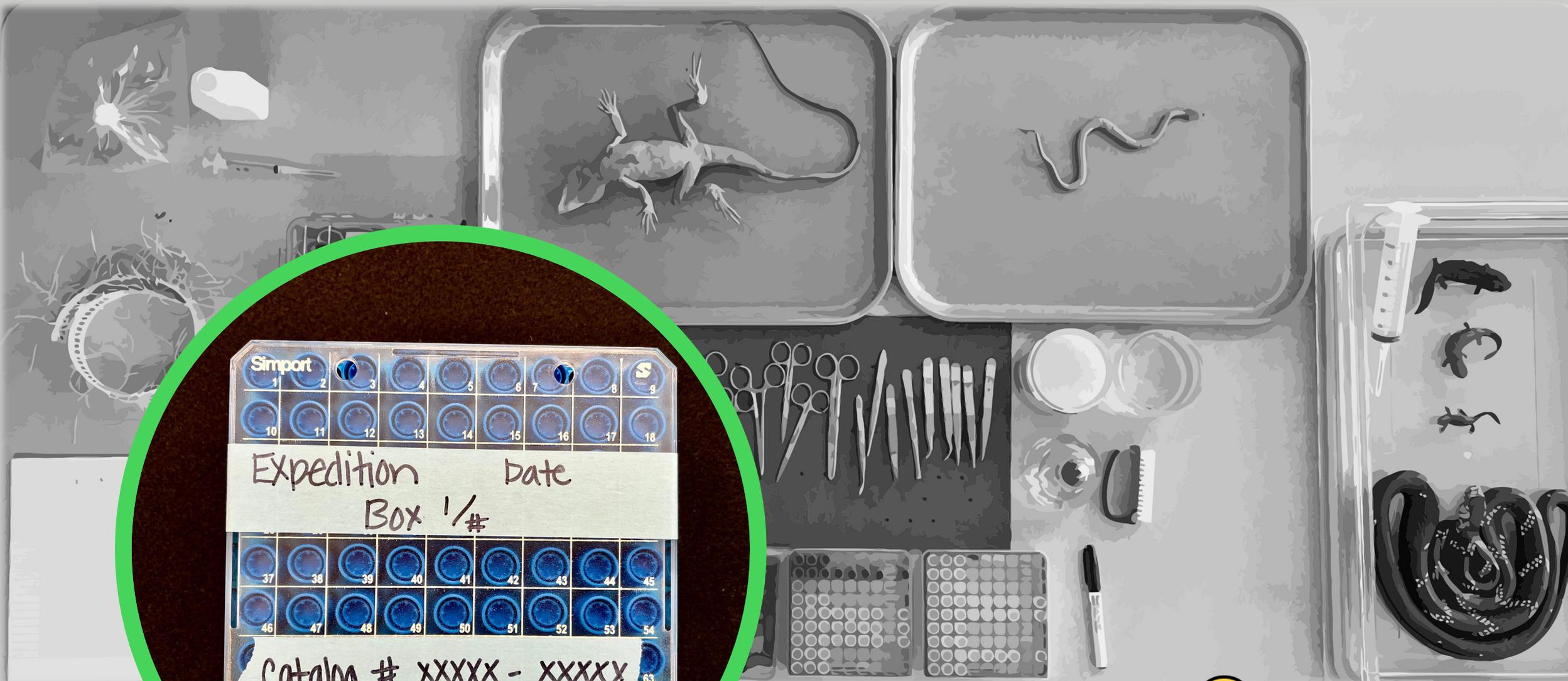
7. Sterilize Tools



Experiment Date
Box No
Category & Name - Part



8. Fix Specimens



Simport	1	2	3	4	5	6	7	8	9	S
10	11	12	13	14	15	16	17	18		
Expedition		Date								
Box 1/#										
37	38	39	40	41	42	43	44	45		
46	47	48	49	50	51	52	53	54		
Catalog # xxxxx - xxxxx										
64	65	66	67	68	69	70	71	72		
73	74	75	76	77	78	79	80	81		

9. Proof

Takeaways

Meets AMCC tissue standards

Streamlines cataloging

Supports common research applications

Easily adaptable to team size

Reduces risk of critical errors

Implementable regardless of storage facility

CONTACT INFORMATION



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