

PAWS UNIVERSITY

– HOME EDITION –



Secret Agent Training

Who Stole Louie's Cookies?

Louie was in the Student Union baking cookies as a Thank-You for essential workers. He set them out to cool and left the kitchen. When he went back, the cookies were gone!!!

The **PAWS University Detective Agency** needs your help figuring out who stole the cookies. To begin, find and complete your Secret Agent badge. *Your codename for this mission will be your middle name and the last thing you ate.* It is important that you include your thumbprint since it is unique to you. (Inkpad included.)

Louie has his suspects listed on the yellow sheet in your kit. As an official PAWS U Detective, complete the following activities to uncover clues and help Louie figure out which suspect stole his cookies.

VIRTUAL ENHANCEMENT ACTIVITIES SCHEDULE

Monday	Secret Agent Workout led by UNK Wrestling Team ¡Veó, Veó! with Dr. Michelle Warren
Tuesday	Chromatography Chemistry Demos with Drs. Moser and Kovacs 2:00pm Book Reading and Interview with UNK Police Sergeant Fast *YouTube LIVE*
Wednesday	Book Reading with Michelle Fouts, Reading Academy Teacher 2:00pm Fingerprinting Demo with Criminal Justice Professor Harshbarger *YouTube LIVE*
Thursday	Kearney Police Department Station Tour with Sergeant Kowalek 11:00am Interview with KPD Officers Wentz and Taillon *YouTube LIVE*
Friday	KPD K-9 Unit (police dog) Demonstration with K-9 Officers

unk.edu/pawsuniversity

Send in questions for the live interviews to paws@unk.edu. Or ask questions during the LIVE stream.

Special Thanks: UNK Criminal Justice and Chemistry Departments;
UNK Police, UNK Wrestling Team; Kearney Police Department



FLAT LOUIE

Inside your kit is a Flat Louie. Color your Detective Louie, cut him out and include him in your activities throughout the week. Have an adult post pictures of your adventures with Flat Louie on our **PAWS University Facebook** group!



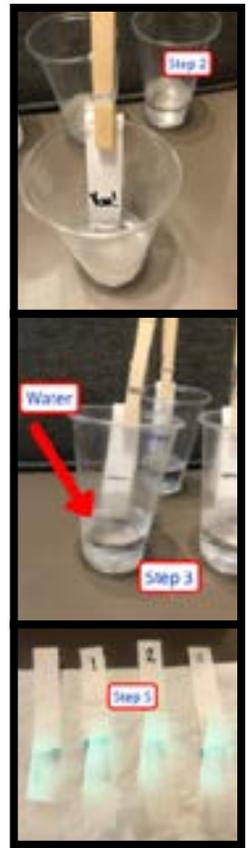
* Kit may contain small objects. Additional themed activities are available online at unk.edu/pawsuniversity, including: virtual enhancement videos, live experiments/interviews, virtual tours, "celebrity" readers, workouts, and more! We encourage you to post photos to our PAWS University Facebook group throughout the week.



STEM: Chromatography

Clue #1: A note was left in place of the plate of cookies that said, "Yum!" Louie needs your help in figuring out whose marker was used to write the note. In your kit, you'll find the evidence note and three strips of paper with marker samples and numbers on them. Use chromatography (krow-muh-taw-gruh-fee), the separation of elements in a mixture, to analyze the evidence and determine which marker was used to write the note.

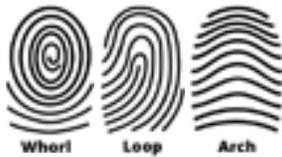
1. Put a very small amount of water in each of the 4 cups. (Note: The little brass brad inside the cup is for your code breaking activity.)
2. Place the "Yum!" evidence strip into a cup, with the word above the water. The paper should barely touch the water. Use the clothespin to hold the paper in place.
3. Place each sample strip in a cup, with the sample line above the water. (The black mark cannot be touching the water.) Use the clothespin to hold each sample in place.
4. Leave the strips in the water until the color has traveled about halfway up the strip. Be patient - this takes 5-10 minutes.
5. Remove the sample and evidence strips from the cups and put them on a paper towel to dry. It's okay if your strips don't look exactly like the picture!
6. Once the strips are dry, compare the 3 marker samples to the evidence note. Which sample strip (1, 2, or 3) best matches the evidence?
7. Use this information to narrow down Louie's suspects. Which department is the thief from?
 - a. Marker 1 is from the **Science Department**.
 - b. Marker 2 is from the **Math Department**.
 - c. Marker 3 is from the **English Department**.



The color black is made by combining all 3 primary colors (red, yellow, blue). The chromatography experiment you did separates the colors that make up the black ink. To enhance your detective skills, you can continue experimenting with chromatography by using coffee filters or paper towels, other non-permanent markers, and various solvents like clear glass cleaner or nail polish remover. (Ask an adult for help with these different solvents.)

Additional activities available at unk.edu/pawsuniversity. Grow your own Rainbow, Chromatography Butterfly, Color Wheel Scavenger Hunt, and more!

ARTS: Fingerprints



Every time you touch something, you leave a small mark called a fingerprint. Your fingerprints are different from everyone else's. And no matter how much you grow, your fingerprints stay the same. Since everyone has a unique fingerprint, detectives can use special tools and fingerprinting to solve crimes. There are three main types of fingerprints: whorl, loop, and arch.

Press one of your fingers on the inkpad, and then onto a piece of paper. Is your fingerprint a whorl, loop, or arch pattern? Do all your fingers have the same fingerprint pattern? Do you have the same pattern as others in your family?



Clue #2: Louie the Loper dusted for prints on the kitchen counter and found this fingerprint. What kind of fingerprint pattern is this? Which suspect could it belong to? Do you now have a single suspect?



Art Activity #1 - [Thumbprint Doodle Art](#)

Fingerprints can be used for more than solving a crime. They can be used for art, too! Find the [Thumbprint Doodle Art handout](#) in your kit. Use the inkpad to put your thumbprint in each box. Then finish your doodle using a pen, pencil, or marker. What other pictures can you create using your fingerprints?



Art Activity #2 - [I Am Unique Poem](#)

Just like your fingerprint, you are unique! Use your inked fingerprint as a guide to sketch out a large copy of your fingerprint on a piece of paper. On the lines you drew, write a poem all about what makes you unique.

Additional activities available at unk.edu/pawsuniversity. Dusting for Prints, Fingerprint Alphabet, and more!

HUMANITIES: Code Breaking

Secret codes have been used for centuries. From the cities of Ancient Rome to the battlefields of World War II, encrypted (or coded) messages were used to transfer information from one place to another without being detected. Here are a few famous codes.

7th Century BC: Scytale Cipher - Ancient Greece



The Spartans used a cipher known as the Scytale (skittle - lee) Cipher. The key to breaking this code was a cylinder. Each general in the Spartan Army had identical long rods. The message they wanted to send would be written on a piece of parchment or leather, like a belt. The encrypted message was then wrapped around the rod until the message could be read.

1st Century AD: Caesar Shift Cipher - Rome

Julius Caesar used this code to send secret messages to his military leaders. The cipher is pretty simple to use, but because most of Rome's enemies were illiterate (they couldn't read) no one was able to break their code for a long time. The Caesar Cipher is known as the shift cipher because all you have to do is shift the letters of the alphabet. The most common shift was three letters to the right, so when you wanted to use the letter A, you actually wrote down D in the code.

Alphabet shifted three letters to the right:																									
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c
Secret Message: L ORYH FRGHV. Decrypted Message: I LOVE CODES.																									

16th Century AD: Pigpen Cipher

The Pigpen Cipher has been used for over 500 years, since the 1500s! It has been known by several different names, including the Masonic Cipher, the Napoleonic Cipher, the Tic-Tac-Toe Cipher, the Freemason's Cipher, and the Pigpen Cipher. The Freemasons, the biggest secret society, used this form of code a lot. Though it may look complicated, the Pigpen Cipher is really simple since you are substituting a shape for a letter.



Activity: Find the green [Cryptanalysis coding sheet](#) in your kit to practice each of these types of historical codes. Practice making your own secret messages using these ciphers or the invisible ink pen in your kit. See if your family members can decipher your codes. Once you are a skilled cryptanalyst go to the "Who Stole the Cookies?" section to check if you have identified the correct cookie "thief" suspect.

Additional activities available at unk.edu/pawsuniversity. Digital Escape Rooms, DIY Invisible Ink, Making and Breaking Codes, Navajo Code Talkers Code Book, and more!

READING: Secret Agent Reading Skills

Test your Secret Agent reading skills. Mark with an X if you are able to demonstrate the skill.



Secret Agent Special Skill	Skills Test	Skill Completed
Very Quiet	Read a book aloud using only a whisper	
Attention to detail	Read a book using a magnifying glass	
Deciphers Codes	Read a book by holding it up to a mirror	
Master of Disguise	Read a book while dressed as someone else	

Clue #3: Who Stole the Cookies?

Louie thinks he knows who took his cookies. Do you have a suspect? Break the codes below to see if you have correctly identified the "thief!"

Name of Cookie "Thief":

Use the "Thief's Name" Scytale cipher and your invisible ink pen to figure out the name of the cookie "thief."

Reason for Taking Cookies

Use your Caesar Shift Secret Decoder, the key N-22, and the code below to figure out why the "thief" took Louie's cookies.

XMJ UZY YMJ HTTPNJX NS F GTC KTW QTZNJ YT IJQNAJW.

Secret Message

Try using the Pigpen Cipher to decode the secret message the cookie "thief" left for Louie.



SNACK: Codebreaking Cookies

Codebreaking Cookies (Adult supervision required)

Courtesy of Kearney HyVee

Ingredients:

- 1 cake mix (any flavor, any brand)
- 2 eggs
- ½ cup oil

Directions:

- Wash your hands.
- Mix together cake mix, eggs and oil in a large bowl.
- Make little balls with the dough and set on ungreased cookie sheets.
- With an adult's help, bake at 350°F for 8-10 minutes.



FAMILY ACTIVITY: Thank Yous



Louie knows that our community's essential workers, the helpers in a time of need, are working hard to keep us safe. A few examples of essential workers are nurses, grocery store employees, mail carriers, trash collectors, and many more! Louie decided to make thank-you cards for some essential workers he knows to go with his cookies. His cards said, "From the bottom of my heart, thank you for helping our community! Love, Louie the Loper" Louie encourages you to make a thank-you card for an essential worker you know. You could even use some of the fun things you learned this week to decorate the card!

Answers:
Name of Cookie "Thief": Amy Nebesniak
Reason for Taking Cookies: She put the cookies in a box for Louie to deliver.
Special Message: Thank you essential workers!