UNIT: UKULELE

COMPOSE YOUR SOUND SIGNAL

OBJECTIVE:

Design your own **secret sound pattern** using your ukulele! Use what you've learned about sound and vibration to create a short **3-note signal** that sends a **message** — like a secret code, a doorbell, or even a warning sound.

MATERIALS:

- ✓ Partner (to test your sound signal)
- ✓ Pencil and worksheet
- ✓ Optional: timer or sound meter app

STUDENT DIRECTIONS:

STEP 1: Explore Sound Options
- o Pluck the strings to find at least 3 different sounds. You can use:
  - ▪ Different strings
  - ▪ Different pluck strengths (soft, medium, hard)
  - ▪ Different locations (closer to the middle or side of the string)
  - ▪ Even tapping or strumming if you want!

STEP 2: Create a Sound Pattern
- o Choose your favorite 3 sounds and put them in order to make your signal.
- o Play the pattern several times until you can repeat it clearly and consistently.

🎵 **My Sound Pattern:**

→ ___ - ___ - ___

(Example: soft pluck - hard pluck - tap)

STEP 3: Give It Meaning!
- o Decide what your signal means. Maybe it's:
  - ▪ "Come play with me!"
  - ▪ "Help me!"
  - ▪ "I'm home!"

> ▪ "Quiet, the teacher's coming!"

📝 My Signal Means:

→ "_____"

STEP 4: Test Your Signal!

- ○ Play your signal for a classmate (without telling them what it means).
- ○ Ask them to guess or explain what they think it means.
- ○ If they didn't understand it, how could you improve it?

STEP 4: Reflect & Record:

Test Results	Response
Did your partner understand your signal?	☐ Yes ☐ No
If not, how would you change it?	_____
Why is sound a good way to send messages?	_____

EXTRA CHALLENGE:

Try creating a **different pattern** for each of these:

- A happy message
- A warning sound
- A question sound

WRAP-UP REFLECTION:

- What affects how loud or high a ukulele string sounds?

  → _____

- How is energy moving when you play your ukulele?

  → _____

- If you made a "super ukulele," what feature would it have?

  → _____

STANDARDS ALIGNMENT

NGSS: 1-PS4-1, 5-PS1-3 **STEL:** STEL 1A, STEL 7A, STEL 8B, STEL 9A, STEL 11C **CCSS:** CCSS.MATH.CONTENT.1.MD.C.4, CCSS.MATH.PRACTICE.MP1, CCSS.MATH.PRACTICE.MP5, CCSS.MATH.PRACTICE.MP6