

SPIKE LUTES IN ASIA

Math and Visual Arts

MIM®

MUSICAL INSTRUMENT MUSEUM

Objective

Through project-based learning, students will observe and discuss the spike lute, and then create their own picture of one. Students will be able to identify basic shapes present in spike lutes in MIM's collection. They will also be able to name specific spike lutes from Asia and identify the country in which they are played.

Standards Addressed

ELA Standards in Mathematics

ELA Speaking and Listening Standards

Arizona State Standards in Visual Arts

Arizona Social Studies Standards

Materials

- Monitor for viewing [spike lutes slideshow](#)
- Spike lute templates (pages 4–9)
- Blank paper (optional)
- Pencils, pens, markers
- Rulers, graph paper (optional)



Moorin khuur spike lute from Mongolia

Part I: What Is a Spike Lute?

Background Information for Educators

A spike lute is a stringed instrument, or chordophone. What defines a spike lute is the presence of a long stick/spike that runs down the entire length of the instrument. According to organologists, spike lutes originated in early Middle Eastern cultures, but have since made their way around the world via the Silk Road and other trade routes, as people and cultures came into contact with one another. Throughout MIM's Asia Gallery, there are spike lutes on display.

Observation and Discussion

Use the [spike lutes slideshow](#). Ask students the following questions to generate conversation about the characteristics of a spike lute.

1. What do you see on this spike lute?
2. How is this spike lute different from others we have looked at?
3. How is it the same?
4. Do all the spike lutes we've seen have anything in common?

Part II: Discuss and Identify Geometry in Spike Lutes

Observation and Discussion

Use the same [spike lutes slideshow](#). Ask the following questions to generate conversation about shapes and geometry.

1. What shapes do you see?
2. Where on the instrument do you see that shape?
3. How many vertices or corners do you see on this shape?
4. Are the sides of the shape of equal length? Which side is longest?
5. What two-dimensional shapes do you see? What three-dimensional shapes do you see?
6. Without the strings, what shape is the body of the instrument?
7. When the strings are added, how does that change the shape?

Makes it into two halves, or two shares.

8. Why do you think this spike lute was decorated in this way? What does the decoration tell you, if anything, about the maker?

Once students have demonstrated understanding of the basic shapes found on the instruments, encourage them to break the shapes down into parts and then rearrange them into different, composite shapes.

1. What shapes are in a square?
Two triangles
2. What shapes are in a hexagon?
Two trapezoids
3. What shapes are in an octagon?
Two trapezoids plus one rectangle
4. What shapes are in a circle?
Two half circles

Part III: Create an Artistic Representation of a Spike Lute

Select a spike lute to draw

Students can either draw their own spike lute or they can choose one of MIM's spike lute templates on pages 4–9.

1. Identify the foundational shape of your spike lute.
Circle, square, trapezoid, hexagon
2. Create a list of **defining attributes** of the shape represented in the spike lute. Draw the shape on graph or blank paper using a ruler, if desired.
This can be the foundation of the students' own drawings, or just an opportunity to practice drawing shapes.
3. Create a list of **non-defining attributes** of the spike lute.

Incorporate the elements of art and principles of design

Discuss and incorporate these selected elements of art and principles of design in the representation of the spike lute.

1. Line
Movement of a point or dot. Line has direction (parallel, zigzag, curved, etc.).
2. Shape
A two-dimensional area that is made by combining lines. Shapes can be precise (like a square or circle) or free-form (curvy, with or without corners).
3. Color
Color is just how we see light. Colors can be primary, secondary, or tertiary and when colors are combined, they create a color scheme (complementary, cool, warm, etc.).

4. Texture

Texture is the way an object feels or looks like it feels.

5. Pattern

Repetition of a design (shape, line, etc.) that can be predictable or unpredictable.

**See supporting materials on page 3 for more information about the elements of art and principles of design.*



Ghijek spike lute from China

Discuss and share students' art

Students share their art work, highlighting the different elements and principles seen on the spike lute they chose. Students can present to the class, to the teacher, or to a small group or partner. Use these prompts to encourage discussion and evaluation of their own and each other's art.

1. Line
"How did the artist use lines in the drawing? Do the lines always connect? Are the lines curvy or straight?"
2. Shape
"What shapes do you see on the artist's drawing?"
3. Color
"How do the colors add to the artist's drawing?"
4. Texture
"If this drawing were a real spike lute, what would it feel like? What kind of texture would it have?"
5. Pattern
"What patterns can we see in the artist's drawing?"

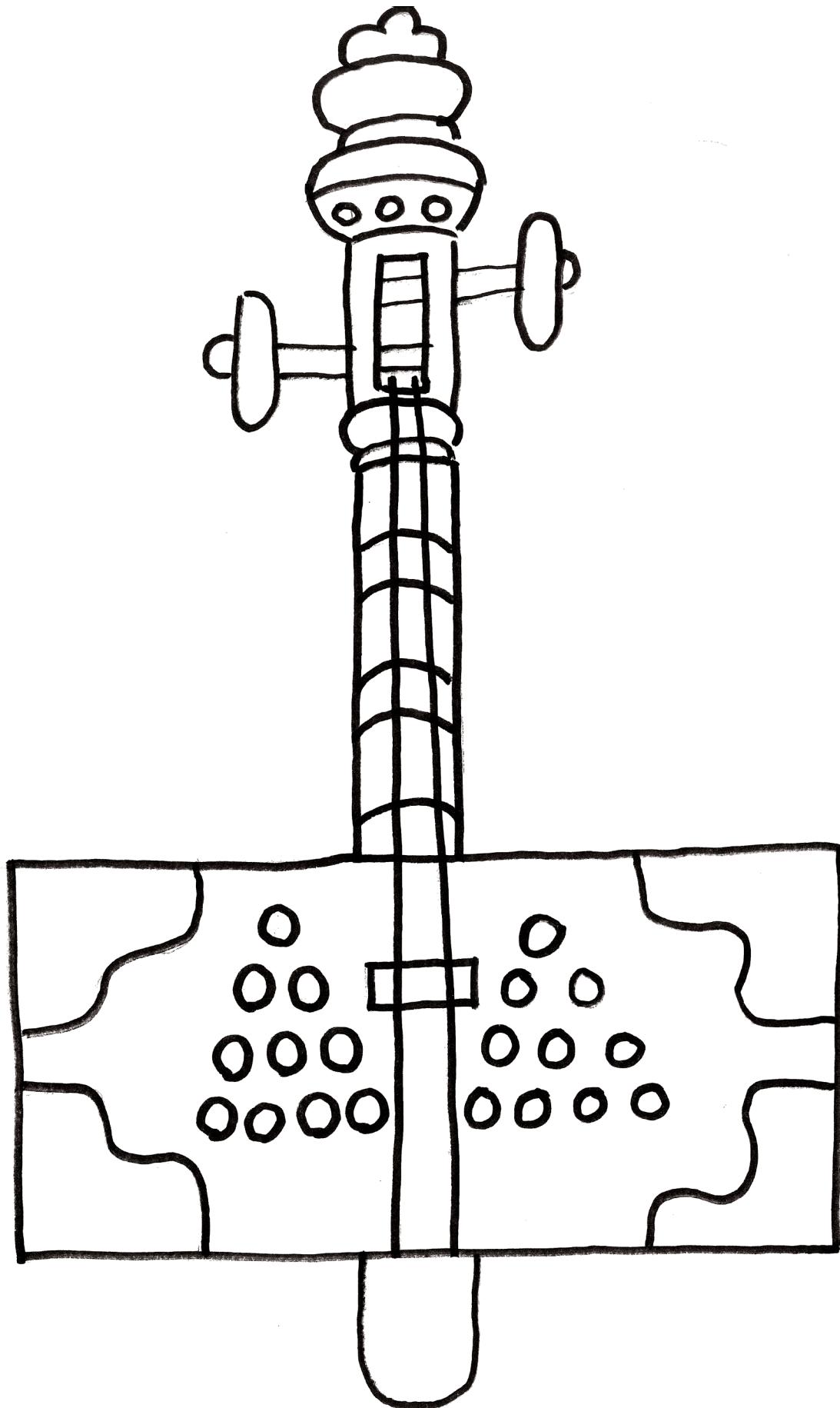
Additional Resources

Art Fundamentals: The Elements of Art,
<http://thevirtualinstructor.com/texture.html>.

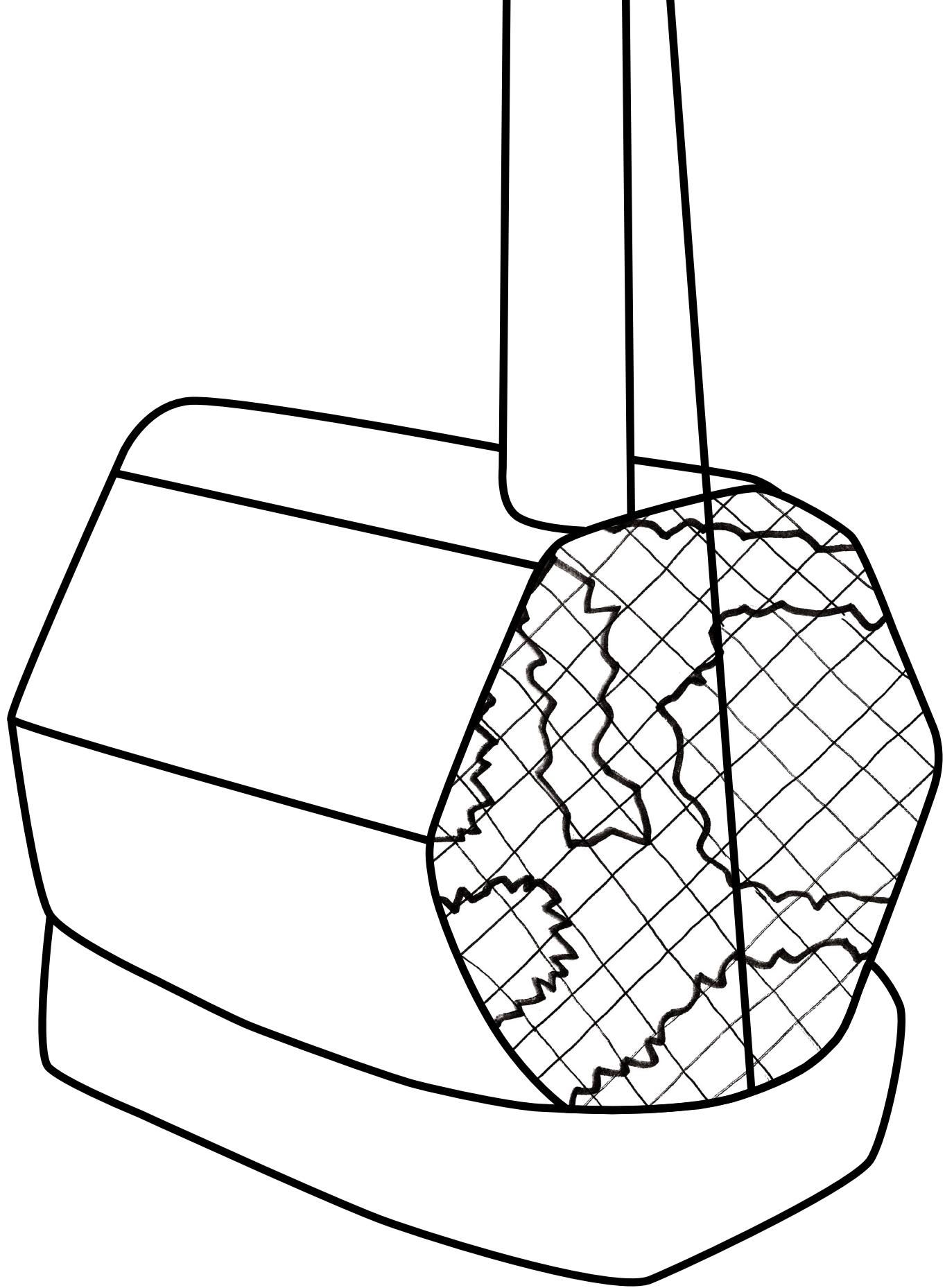
Project ARTiculate. Elements and Principles of Art,
<http://www.projectarticulate.org/principles.php>.

[Spike lutes slideshow](#)

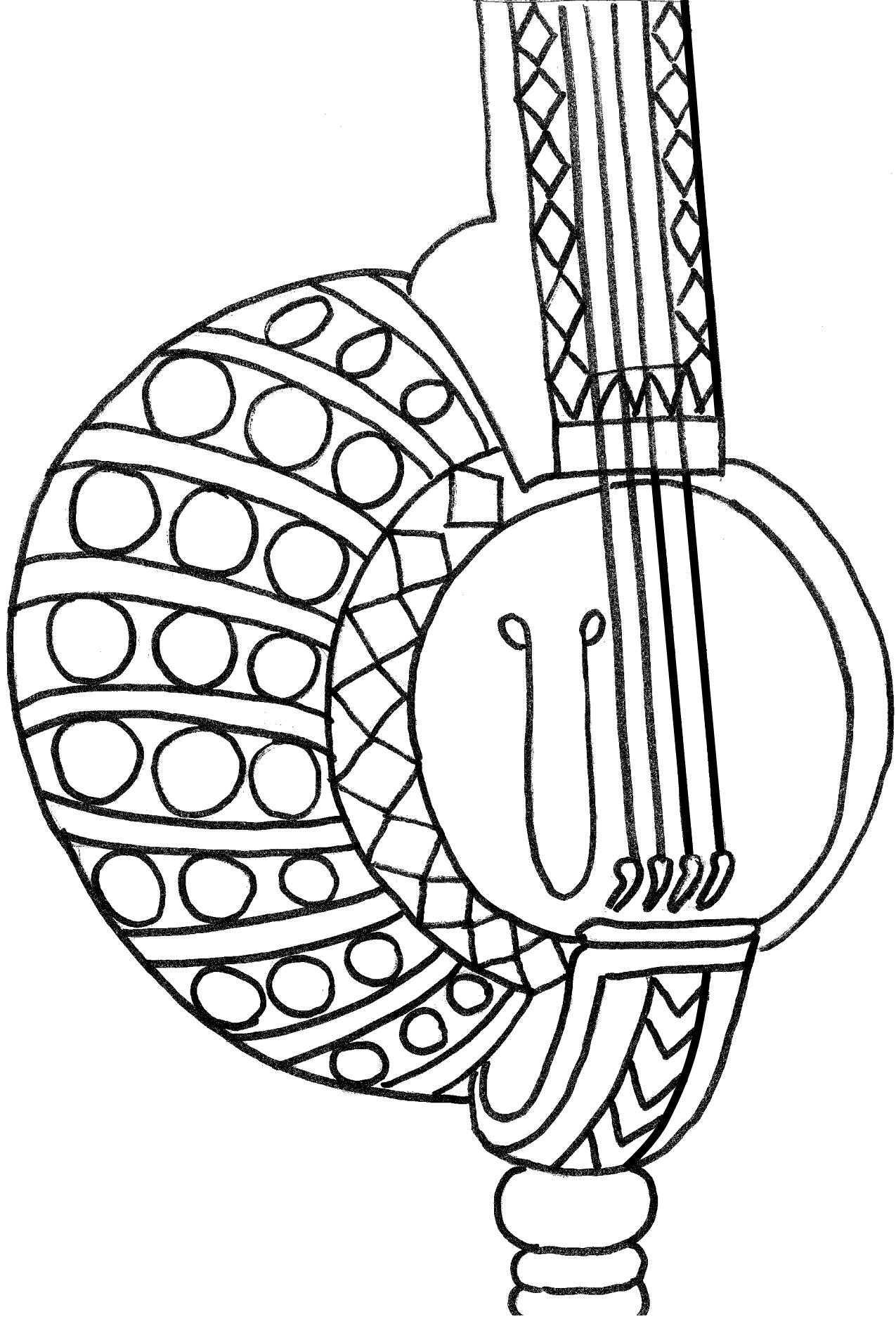
Spike lute templates (pages 4–9)



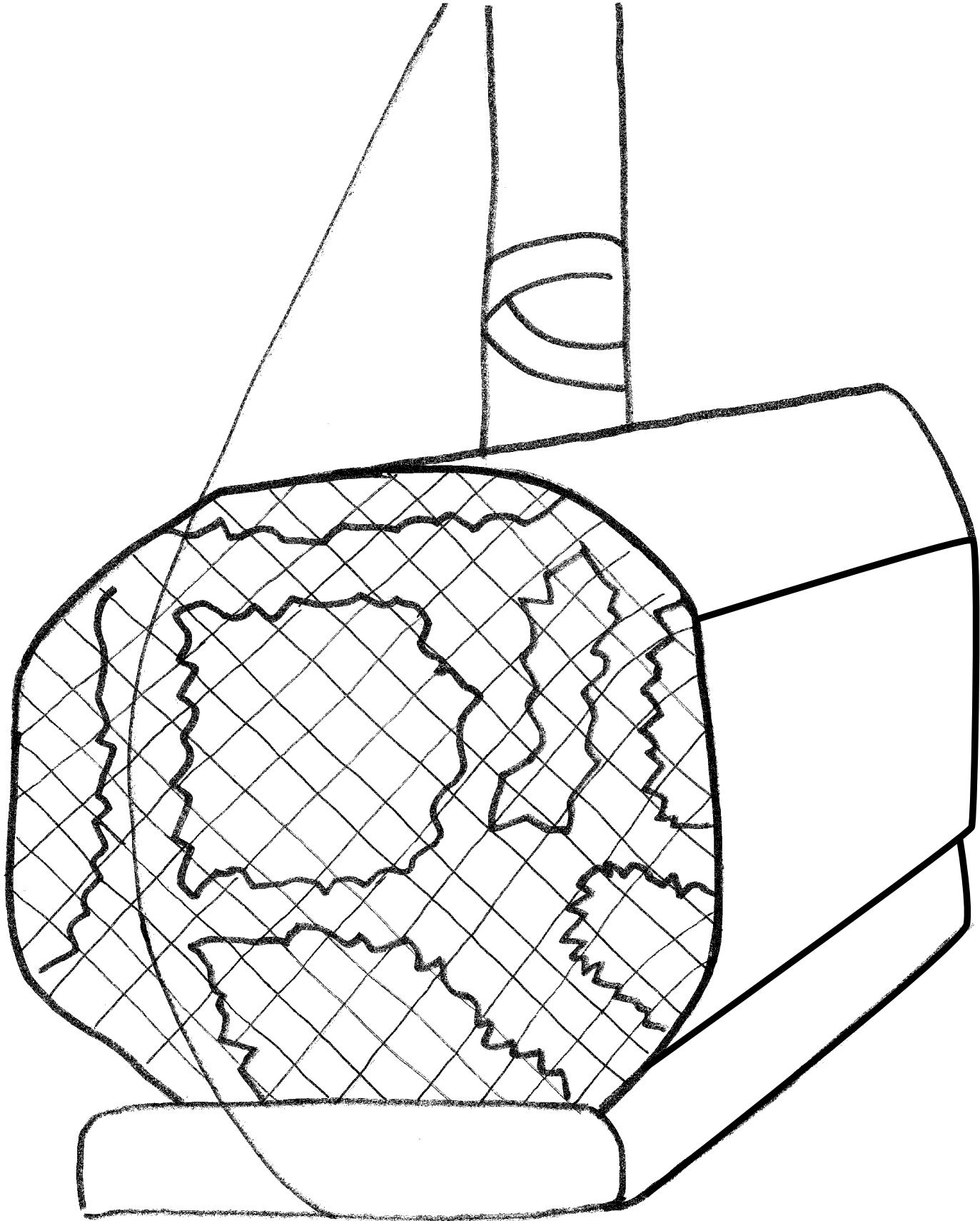
Spike Lutes in Asia Geometry and Visual Arts Activity:
Ghichak, Spike Lute | Origin: Afghanistan



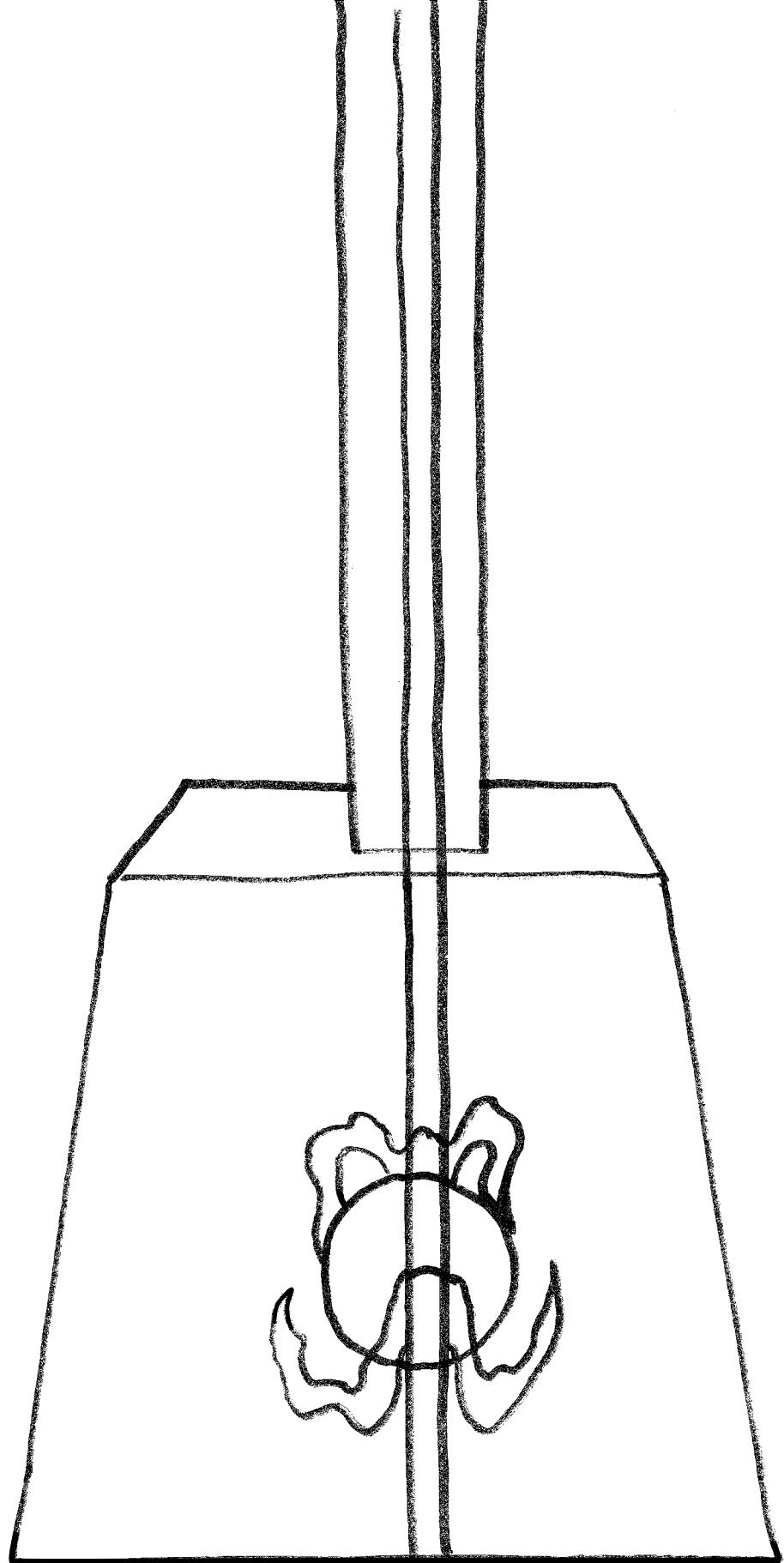
Spike Lutes in Asia Geometry and Visual Arts Activity:
Erhu, Spike Lute | Origin: China



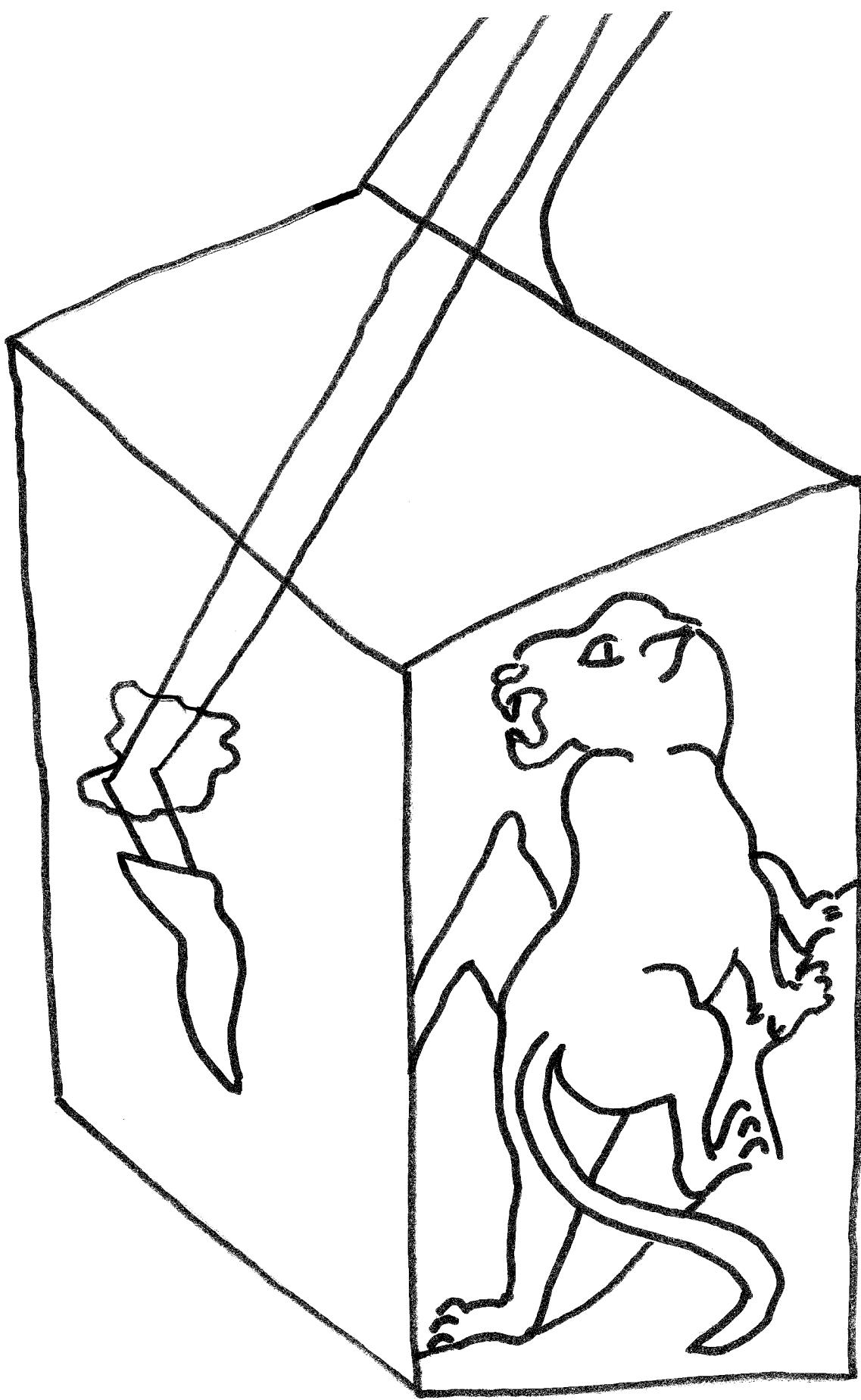
Spike Lutes in Asia Geometry and Visual Arts Activity:
Ghijak, Spike Lute | Origin: China



Spike Lutes in Asia Geometry and Visual Arts Activity:
Zhonghu, Spike Lute | Origin: China



Spike Lutes in Asia Geometry and Visual Arts Activity:
Morin Khuur, Spike Lute | Origin: Mongolia



Spike Lutes in Asia Geometry and Visual Arts Activity:
Morin Khuur, Spike Lute | Origin: Mongolia