ARTS IMPACT—ARTS-INFUSED INSTITUTE LESSON PLAN (YR2-MAP)

SIXTH GRADE—LESSON FOUR: Anibots: Custom Detailing

Artist-Mentor – Shannon Eakins & Meredith Essex Grade Level: 6

Examples:

Enduring Understanding

Artistic decisions can be communicated with purposeful visual clues and written information.

Art

Target: Visually communicates function or personality of Anibot form.

Criteria: Adds details to distinguish character form.

Art

Target: Uses craftsmanship in assembling polyhedra.

Criteria: Cuts and positions materials with smooth lines, then attaches polyhedra and character details securely.

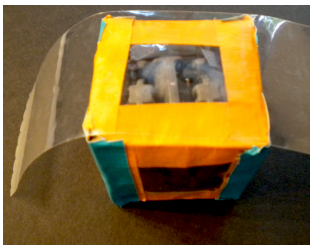
Materials
Roll of self adhesive hook and loop tape (ex: Velcro, approximately 3 inches per student), coated wire or and/or chenille stems (pipe cleaners), multicolored decorative tape (ex: Mylar tape), multicolored duct tape, clear duct tape to reinforce Anibots, peel and stick wiggly eyes, self adhesive fun foam, scissors

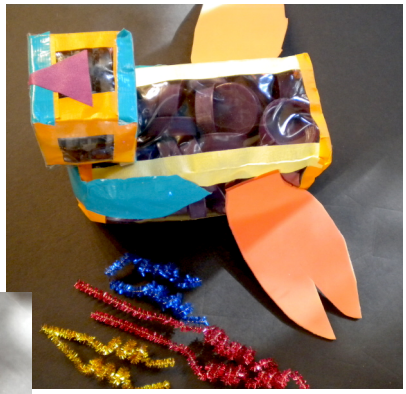
Learning Targets
- Visually communicates function or personality of Anibot form.
- Uses craftsmanship in assembling polyhedra.

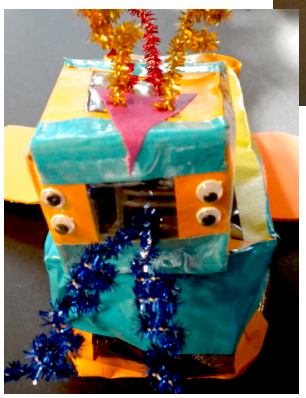
Do Now
Check your Anibot polyhedra—are they sturdy? Where do they need reinforcement? Find the weakest points and burnish down tape. Review your Anibot design and *Specification Sheet:* What details and shapes will you need to communicate information about the function and personality of your Anibot? APM 5-19

Activities/Prompts
- These are sculptures and toys: We want them to last a long time. Heavier duty duct tape in clear and colors is added to reinforce and strengthen our polyhedra. Use scissors to cut tape and carefully attach. This tape is sticky and strong—add square and rectangular "patches" to reinforce seams.
- Connect polyhedra for your Anibot sculpture. Refer to original sketches to determine where those connection points will be. Cut a ¾-inch piece of soft and hard hook and loop tape and apply one piece on either side of the connection.
- Now that we have reviewed what our Anibot sculptures do, we can finish them by adding details to the form. Take a look at the materials we have available: tapes, colorful wire and chenille stems (pipe cleaners), wiggly eyes and fun foam.
- Once you decide what you need to add to your Anibot sculpture, sketch the entire Anibot in the top corner box of your specification sheet. APM 5-9 Add wire by piercing a tiny hole in vinyl and then poking wire into the inside of the polyhedron. Foam and eyes can be cut, and then backing peeled to attach the eyes. APM 5-19

Big Math and Art Ideas Polyhedra: rectangular prisms/cubes, character, craftsmanship, detail, sculpture, parallel, perpendicular







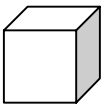
Self Assessment/Reflection
Students complete self-checklist and reflect: *Describe how specific details that you added communicate the function and personality of your Anibot.* APM 5-19

Closure Store APM, notes and drawings securely in zipper bags until Spring review when one more Anibot polyhedron is attached for upgrade.

Assessment Criteria
- ☐ Adds details to distinguish character form.
- ☐ Cuts and positions materials with smooth lines, then attaches polyhedra and character details securely.

Next Steps/Follow up Needs Students/teachers display Anibots with Anibot Specification Sheets

Teaching and Learning Strategies
DO NOW WARM-UP

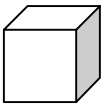


Check your Anibot polyhedra—are they sturdy? Where do they need reinforcement? Find the weakest points and burnish down tape. Review your Anibot design and *Specification Sheet.* What details and shapes will you need to communicate information about the function and personality of your Anibot? APM 5-19

1. Demonstrates reinforcing Anibot polyhedra with assorted tapes using precise parallel and perpendicular edges to make them sturdy and to enhance the mathematical robotic character forms. *Prompts: These are sculptures and toys: we want them to last a long time. The colored tape for Anibot polyhedra is a "low tack tape"—not too sticky so it is easy to use. It needs to be vigorously rubbed down, and then heavier duty duct tape in clear and colors as well as Mylar tape can be attached to reinforce edges using excellent craftsmanship. Let the mathematical/geometric form guide you: use scissors to cut tape and carefully attach, keeping edges parallel. This tape is stickier and stronger so be careful and take your time applying: don't cover up all of the great clear vinyl areas, but think about adding square and rectangular "patches" to reinforce seams. This adhesive tape can also be used to create markings—spots or stripes on your Anibot.*
Student: Reinforces Anibot polyhedrons.

2. Demonstrates connecting polyhedrons with hook and loop tape. *Prompts: Once you have completed reinforcing three-dimensional polyhedrons,* ***connect*** *them into the shape of your Anibot sculpture. Refer to your original sketches from lesson one to determine where those connection points will be. Cut a ¾-inch piece of soft and hard hook and loop tape and apply one piece on either side of the connection. Make sure that the connection hides the hook and loop tape.*
Student: Connects polyhedrons with hook and loop tape.

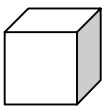
3. Leads discussion about designing details. *Prompts: Now that we have reviewed what our Anibot sculptures do, we can finish them by* ***adding details*** *to the form. What kinds of buttons will your hybrid need for functioning? Will it need arms, legs, antennas, or other appendages to complete its tasks? Does it need eyes or sensors? How could these details help communicate to your viewer what your hybrid does? Take a look at the materials we have available…tapes, colorful wire and chenille stems (pipe cleaners), wiggly eyes and fun foam. Once you decide what you need to add to your Anibot sculpture, sketch the entire Anibot in the top corner box of your specification sheet APM page 9.*



Student: References original Anibot design, Lesson One in planning and selecting materials, completes Anibot Specifications Sheet by adding final drawing/design. APM 5-9
Embedded Assessment: Criteria-based teacher checklist

4. Demonstrates cutting, forming, and attaching details. *Prompts: The wire or chenille stems (pipe cleaners) may be bent with your fingers or around a pencil and attached first piercing a tiny hole in vinyl and then poking wire deeply into the inside of the polyhedron. How else could you neatly attach a wire piece to your sculpture? The foam is adhesive, so it can be carefully and smoothly cut, then backing peeled to expose stick areas at the attachment points you identify. Eyes are peel and stick also. Remember cutting foam pieces with smooth even cuts using the full blade of the scissors.*
Student: Prepares and attaches details using craftsmanship. APM 5-19
Embedded Assessment: Criteria-based teacher checklist

5. Guides student self-assessment and reflection. *Prompts: Describe how specific details that you added* ***communicate the function and personality*** *of your Anibot.*



Student: Self Assesses. APM 5-19
Embedded Assessment: Criteria-based student self checklist

Vocabulary	Materials and Community Resources	WA Essential Learnings & Frameworks
Arts Infused: 2-D 3-D Geometric shape Grid Pattern Proportion Rectangle Scale Square Triangle Math: Angle Area Congruent Edge Face Geometric solid Polygon Polyhedron Rectangular prism Surface area Volume Arts: Craftsmanship Detail Form Sculpture Soft sculpture Transparent	**Museum Artworks** **Art Materials:** Roll of self adhesive hook and loop tape (ex: Velcro, approximately 3 inches per student) Coated wire or and/or chenille stems (pipe cleaners) Multicolored decorative tape (ex: Mylar tape), multicolored duct tape, and clear duct tape to reinforce Anibots Peel and stick wiggly eyes, Self adhesive fun foam Scissors APM 2-gallon zipper bags for storage (ex: Ziploc)	**Arts State Grade Level Expectations** AEL 1.1 concepts *2-dimensional to 3-dimensional* *Geometric shape and form* AEL 1.2 skills and techniques *Measuring* *Drawing* *Affixing* AEL 4.2 connections between the arts and other content areas *Explains relationships between the arts and other content areas* AEL 4.5 knowledge of arts skills in the world of work *Identifies Math and Art in three-dimensional product construction* **Math State Grade Level Expectations** 6.4.B two- and three-dimensional figures *Determine the perimeter and area of a composite figure that can be divided into triangles, rectangles, and parts of circles* 6.4.D two- and three-dimensional figures *Recognize and draw two-dimensional representations of three-dimensional figures.* 6.4.E two- and three-dimensional figures *Determine the surface area and volume of rectangular prisms using appropriate formulas and explain why the formulas work*

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ASSESSMENT WORKSHEET

Disciplines	ART			Total 3 Points
Concept	**Finishing**	**Assembling Anibots**		
Students	Adds details to distinguish character form	Cuts and positions materials with smooth lines	Attaches polyhedra and character details securely	
1.				
2.				
3.				
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25.				
26.				
27.				
28.				
Total				
Percentage				

Criteria-based Reflection Questions: (Note examples of student reflections on back.)
Describe how specific details that you added communicate the function and personality of your Anibot.

Thoughts about Learning:
Which prompts best communicated concepts? Which lesson dynamics helped or hindered learning?

Lesson Logistics:
Which classroom management techniques supported learning?

Teacher: _____ Date: _____