BALTIMORE
ARTS INTEGRATION
PROJECT
A PROGRAM OF ARTS EVERY DAY

CALLS OF THE WILD
BAIP OVERLAY

An Overview of How to Apply Brain-Targeted Teaching® and Arts Integration to the Baltimore City SABES Classroom

SABES Content: **Grade 1, "Calls of the Wild"**

Artform Focus: **Music, Visual Arts, & Theater**

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Welcome Message

Dear educator,

Welcome to the Baltimore Arts Integration Project! We are excited to share resources and activities that help you bring the arts and brain-based pedagogy directly to your classroom with content that integrates seamlessly with your existing curriculum.

Studies show again and again how the arts are an ideal method for teaching for mastery because of their direct association with supporting long-term memory of content knowledge and skills. What is more, they bring more joy, connection, and a greater sense of belonging to learning experiences.

The Brain-Targeted Teaching® model (BTT) is an instructional model that guides educators in applying brain research for highly effective instruction. Arts integration is an approach to teaching in which students learn through the creative process of art making. Both concepts are the driving force behind the content below.

Happy teaching!

Sincerely,
The BAIP Team

Learning Unit Overview

Welcome to Calls of the Wild!

In this unit, students will be able to identify what sounds are and how they are created, understand that humans and animals can use sounds for a variety of purposes including echolocation, and ultimately create their own echolocation devices. This overlay uses arts integration and Brain-Targeted Teaching strategies to address Unit Goals 1, 2, 3, and 5.

1 Goal 1

Students will use observations from a listening activity to identify the source of a sound and identify the sounds as loud or soft, and high or low pitch.

2 Goal 2

Students will record observations to describe the effects of vibrations through different mediums and explain how the vibration of objects creates the sounds we hear.

3 Goal 3

Students will obtain information about the different purposes of animal communication (mating, alarm, location, food, and singing), including echolocation.

4 Goal 5

Students will act as rehabilitation engineers to create a device (echolocator) that produces sound to help a person with vision challenges “see” the world around them.

Why Arts Integration

In this BAIP overlay, a variety of art forms, including music, theater, and visual arts become a natural vehicle for teaching and learning about sound and animal communication. This arts-integrated/BTT approach has many benefits, including:

- By using skills like acting, singing, and drawing, students learn new information through multiple pathways, involving both their minds and bodies, as supported by a variety of studies.

- Students involved in drama performance coursework or experience outscored non-arts students on the 2005 SAT by an average of 65 points in the verbal component and 34 points in the math component, as reported by the College Entrance Examination Board.

- Integration of music can boost standardized test scores. A study published in 2007 by Christopher Johnson, professor of music education and music therapy at the University of Kansas, revealed that students in elementary schools with superior music education programs scored around 22 percent higher in English and 20 percent higher in math scores on standardized tests, compared to schools with low-quality music programs, regardless of socioeconomic disparities among the schools or school districts.

- Drawing a concept can help us remember information better than listening or writing alone. Researchers published in the Association of Psychological Science Journal found that drawing results in better recall because of how the information is encoded in memory. When a student draws a concept, they “must elaborate on its meaning and semantic features, engage in the actual hand movements needed for drawing (motor action), and visually inspect [the] created picture (pictorial processing).”

Brain Target 1:
The Emotional Climate

BTT prioritizes building positive and affirming learning environments. This allows the brain and body to be more receptive to the learning activities.

For students: To set up the emotional climate for learning and approaching these arts integrated experiences, we suggest:

- **Exploration.** There can be multiple right answers to a question. Students may understand things differently than one another and this is wonderful. Utilize these different art forms as multiple pathways to understanding.

- **Collaboration.** Performing in front of classmates can be nerve-wracking for students. While we want all students to participate, we can alienate them by putting them on the spot. Students can work in groups for all performance-based tasks so they never feel too “on the spot.”

- **Celebration**. Students are natural artists. They can often draw before they write and sing before they speak. Encourage the utilization of these art forms as an accomplishment. It’s not about creating museum-quality art, but rather creating art that exemplifies their understanding and academic growth.

Facilitation Notes for Teachers

We suggest making sure you're comfortable with the art forms utilized in this unit. You do *not* need to be an expert in the art forms, but we've added some skills and vocabulary for each art form below. If you understand these terms (many of which are defined in the SABES unit itself), you'll be more than capable of leading these strategies in your classroom.

- **Music**:
  - Volume - how loud or soft a sound is
  - Pitch - how high or low a sound is
  - Note - a visual representation of a sound in music
  - Rest - a pause or silent moment in music
  - Instrument Families:
    - String - vibrates a string to make a sound
    - Brass - vibrating lips and blowing air to make a sound
    - Woodwind - blowing air to make a sound
    - Percussion - striking an object to make a sound

- **Theater**:
  - Character - who is saying the words
  - Line - the words they are saying
  - Intention - what the character is trying to say with the line

- **Visual Art**:
  - Drawing - making a simple picture of an idea using pencil or crayon
  - Painting - making a simple picture of an idea using paint

Brain Target 2:
The Physical Environment

A conducive learning environment is prepared through deliberate planning that incorporates novelty, order, and aesthetic elements in each unit. The balance between consistency and novelty is crucial: novelty stimulates creativity, while a familiar foundation provides stability.

For this overlay, we suggest the following for setting up your optimal physical environment:

- A designated performance space in the classroom.
- A space outdoors or in a gym for echolocation lessons.
- A space to display student work like excerpts of science journals or echolocation foldables, like a bulletin board.
- Since this unit is all about sound, keep in mind your students for whom loud noises are over-stimulating. While noise is unavoidable, you can adapt these activities to your classroom needs.

Brain Target 3:
Big Picture Learning Design

Concept mapping is a pictorial method of big picture planning. By using a thematic graphic organizer, we show how Brain Targets 4, 5, and 6 work together with arts integrative activities to achieve this SABES unit's learning goals and objectives.

Brain Target 4: Mastery of Content, Skills, and Concepts

Brain Target 4 speaks to the educator's aim to facilitate knowledge acquisition where information transitions from short-term to long-term memory. Brain research highlights how neural networks for memory grow stronger with use. Therefore, the teacher's goal is to "hardwire" vital content by utilizing diverse learning experiences that allow for "repeated rehearsal" of core skills and knowledge areas. Arts integration is an ideal approach to teaching and learning to meet these aims.

Activity 1: Daily Ritual - Call and Response of the Wild

1. Science Objective

Unit Goal 2 - Students will record observations to describe the effects of vibrations through different mediums and explain how the vibration of objects creates the sounds we hear.

2. Artform

Music/Visual Art

3. Activity Summary

In this activity, students will listen carefully to the music created by the sounds all around them and record their observations in their science journals. Students will be able to identify the source, volume, and pitch of the sound.

4. Recommended Evaluation Style

Science Journal/Portfolio of sounds heard over time.

Activity 2: The Sound Song

1. **Science Objective**

Unit Goal 1 - Students will use observations from a listening activity to identify the source of a sound, and identify the sounds as loud or soft, and high or low pitch.

2. **Artform:** Music

3. **Activity Summary**

In this activity, students will use music and song to review and rehearse the core unit vocabulary/content, specifically: sound, vibration, pitch, volume, and echo.

4. **Recommended Evaluation Style**

This activity serves as a (per)formative assessment of student knowledge and understanding of the unit concepts. As students perform the song, they demonstrate their understanding of volume, pitch, and echo.

Activity 3: Music Writing

1. **Science Objective**

Unit Goal 1 - Students will use observations from a listening activity to identify the source of a sound, and identify the sounds as loud or soft, and high or low pitch.

2. **Artform:** Music

3. **Activity Summary**

In this activity, students will be introduced to the very basics of writing and reading music, and will write and play their own musical “phrase”, incorporating pitch and volume.

4. **Recommended Evaluation Style**

A rubric assessing student understanding of vocabulary is provided.

Activity 4: Echo Foldable

1. Science Objective

Unit Goal 2 - Students will record observations to describe the effects of vibrations through different mediums and explain how the vibration of objects creates the sounds we hear.

2. Artform: Visual Art

3. Activity Summary

In this activity, students will utilize visual arts to create an art piece that models the behavior of sound waves during echolocation.

4. Recommended Evaluation Style

The echo foldable serves an artistic portfolio. Additional questions may be asked to further assess student understanding.

Activity 5: Animal Sound Scenes

1. Science Objective

Unit Goal 3 - Students will obtain information about the different purposes of animal communication (mating, alarm, location, food, and singing).

2. Artform: Theater

3. Activity Summary

In this activity, students will learn different and varied animal noises and what they mean. Once these basics are learned, students will perform in their own scenes embodying the character of those animals and the noises they make. Using provided scripts, students will have "conversations" between their animals utilizing their own voices to recreate the pitch and volume of their animals to more fully understand the meaning of those animal noises.

4. Recommended Evaluation Style

A rubric assessing students understanding of pitch, volume, and characterization has been provided.

Brain Target 5: Application of Knowledge

BT 5 seeks to strengthen deeper thinking and learning by applying skills and content in meaningful, active, real-world tasks.

Provided below is a Design Challenge extension opportunity to allow students greater application of what they have learned throughout the SABES unit.

Design challenge summary

1. Science Objective

Unit Goal 5 - Students will act as rehabilitation engineers to create a device (echolocator) that produces sound to help a person with vision challenges “see” the world around them.

2. **Artform:** Music/ Visual Art

3. Extension Summary

- In this extension to the Engineering Design Challenge, students will draw inspiration from musical instruments for the design of their echolocation devices.
- Additionally, they will incorporate the skill of writing musical “phases” (addressed previously in the unit) to create and perform another musical phrase to be used in the testing of their device.
- The musical phrase that students create must align with the criteria of the SABES Engineering Design Challenge.
- This arts-integrated extension also includes a challenge rubric, which teachers may utilize to assess students on the design challenge’s learning objective.

4. Recommended Evaluation Style

A rubric is provided in the BAIP additional materials to assess the added musical and visual arts components in addition to the existing SABES standards.

Brain Target 6:
Evaluation and Assessment

Evaluating instruction is as important to the learning process as meaningful learning activities. BTT emphasizes that relevant and timely evaluation is an ongoing, two-way process that begins almost as soon as the students' first introduction to a learning unit.

For this reason, aligned evaluation methods and materials that meet the criteria of both the science and arts standards have already been included. These materials are accessible in the following sections of this Arts Every Day course.