ITQ ARTS AND SCIENCE INTEGRATION
GRADE 5
THEATRE AND PHYSICAL SCIENCE

Improvisation - Using Theatre to Create Meaning
"Mixtures and Solutions," Investigations 1, 2 and 3
LESSON # 3

CONTENT STANDARDS

Theatre

1.1 Use the vocabulary of theatre, such as sense memory, script, cue, monologue, dialogue, protagonist, and antagonist, to describe theatrical experiences.
1.2 Identify the structural elements of plot (exposition, complication, crisis, climax and resolution in script or theatrical experience.
2.1 Participate in improvisational activities to explore complex ideas and universal themes in literature and life.
2.3 Collaborate as an actor, director, scriptwriter or technical artist in creating formal or informal theatrical performances.
5.2 Identify the roles and responsibilities of performing and technical artists in theatre, film, television, and electronic media.
5.4 Use theatrical skills to dramatize events and concepts from other curriculum areas, such as reenacting the signing of the Declaration of Independence in history-social science.

Physical Science

PS1B Students know all matter is made of atoms, which may combine to form molecules.
PS1g Students know properties of solid, liquid, and gaseous substances, such as sugar, water, helium, oxygen, nitrogen and carbon dioxide.
I&E6c Plan and conduct a simple investigation based on a student developed question and write instructions others can follow to carry out the procedure.

ESSENTIAL QUESTIONS *(Questions students might ask about the topic)*

- What tools do actors use to show "character" to an audience?
- What are the different parts of a story?
- What different jobs are there in theatre?
- How can theatre be used to tell stories from science?
- What can be created when atoms join together?
- Do different molecules have different qualities?
- What is the fundamental building block of matter?

OBJECTIVES & STUDENT OUTCOMES *(Students will be able to…..)*

- create character through gesture, posture and vocal expression.
- identify elements of plot in a short improvisation.
- use improvisation to create a short script about a scientific concept.
- practice skills of an actor and playwright.
- write a procedural document in the form of a script.
- articulate the difference between an atom and a molecule.
- build physical representations of the molecules water, helium, oxygen, nitrogen and carbon dioxide.

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning)*

- **Feedback for Teacher**
  - "Storytelling Planning Worksheet" (included)
  - Scene observation
  - Video
- **Feedback for Student**
  - Teacher/Peer Comments
  - Video

WORDS TO KNOW

Theatre Grade 5

- **climax:** The point of highest dramatic tension or a major turning point in the action.
- **complication:** The inciting incident that introduces the problem or conflict.
- **crisis:** A decisive point in the plot of a play on which the outcome of the remaining actions depends**.**
- **dialogue:** The conversation between actors on stage.
- **director:** The person who oversees the entire process of staging a production.
- **exposition:** Detailed information revealing the facts of a plot.
- **improvisation (improv):** A spontaneous style of theatre in which scenes are created without advance rehearsing or scripting.
- **monologue:** A long speech by a single actor.
- **playwright:** A person who writes a play.
- **resolution:** The ending where loose ends are wrapped up.
- **stage manager:** The director's liaison backstage during rehearsal and performance.

Science Grade 5

- **atom:** The smallest particle of an element. Atoms are the building blocks of matter.
- **matter:** Anything that has mass and takes up space.
- **mixture:** A substance containing two or more materials with different properties.
- **molecule:** The smallest part of a substance that is made up of two or more atoms.

MATERIALS

- "Storytelling Planning Worksheet" (Attached)
- "Sample Script from *Peter Pan*" (Attached)
- Video camera

RESOURCES

- VAPA Core Learnings: http://www.sandi.net/204510720114515653/site/default.asp
- *FOSS Kit Grade 5,* "Mixtures and Solutions," Investigations 1, 2 and 3
- Online improvisation lesson videos: http://www.ehow.com/video_4949233_improv-yes-lets.html
- *Theatre Games for the Classroom*, Viola Spolin (available on Google Books at http://tinyurl.com/spolinbook)

PREPARATION

- Make copies of "Atomic/Molecular Theatre Story Planning Worksheet" and "Sample Script from *Peter Pan*."
- Brainstorm and chart a list of mixtures that are not a solution and a list of mixtures that are solutions.

WARM UP *(Engage students, access prior learning, review, hook or activity to focus the student for learning)*

(5 minutes)

- Review with students the difference between a **mixture** that is not a **solution** and a **mixture** that is **solution**.
- Play the "Categories" game.
  - Line five students up in front of the class.
  - The teacher/leader serves as the conductor and calls out either "***mixture*** but not a ***solution"*** or "***solution****."*
  - The teacher/leader then points at students one at a time in a random order.
  - Each student, when pointed at, must call out something that fits in the category. [**mixture**: trail mix, pennies and quarters, pebbles and water, cereal and milk, etc. - **solution**: salt water, sugar water, ice tea, etc.]
  - When a student cannot think of something to say or says something that doesn't fit in the category they then sit down.
  - Last person standing gets a round of applause.
  - Repeat with the other category.
- This can be played with any category.

MODELING *(Presentation of new material, demonstration of the process, direct instruction)*

(20 minutes)

- Discuss with students that there are a lot of people that make a professional play happen on stage.
- *Say/ask:*
  - *You already know about **actors**. What are some of the other jobs that need to get done in theatre?* [**director**, choreographer, **stage manager**, prop mistress, producer, **playwright**, scenic builder, lighting designer, sound operator, etc.]
- *We are going to discuss two of those jobs today: the **playwright** and the **stage manager**.*
- Ask students what they think a **playwright** does. Write ideas on board.
- Ask students what they thing a **stage manager** does. Write ideas on board.
- Ask students to define what a script is. Provide further explanation.
- Tell students that the **playwright** writes the script and the **stage manager** writes down all the action that takes place on the stage. This is called blocking. This is a way to document what you do so the play can be done again in the future.
- Tell students that a script is a "procedural text." Ask them what procedural means. [It's like following a recipe. A script is a recipe for creating a performance.]
- Ask students to remember a time when they did a science experiment.
- *Ask:*
  - *Did you have to follow directions?*
  - *Were there multiple steps to the experiment?*
  - *Could you write those steps down so that someone else could do the same experiment again?*
- *Say:*
  - *Theatre can often be thought of as an experiment. The creative team has a goal in mind and they follow the same steps every night to try and have the same outcome. But sometimes there are variables that change and make the performance slightly different. Some examples might be that the audience laughs in a different place or someone forgets a line or an **actor's** costume rips. When this happens it changes the play a little bit.*
  - *The i**mprovisation** you did in the last lesson was a theatre experiment. You had a problem in mind and then you came up with a way to solve it.*
  - *You are now going to write a procedural text, or script, of your **improvisation** so that another group can recreate your experiment.*
- Tell students that they will recreate their **improvisation** from the previous lesson and then fill in a planning worksheet as a pre-writing activity. Review the "Story Planning Worksheet." They will use the worksheet to write a very short script.
- Show on overhead or smart board the "Sample Script from *Peter Pan*." Demonstrate how a script is laid out.

GUIDED PRACTICE *(Application of knowledge, problem solving, corrective feedback)*

(25 minutes)

- Have students return to their groups from the previous lesson.
- Students then recreate their **improvisation** making notes on how it plays out.
- Students fill in the "Story Planning Worksheet". (Attached)
- Students begin to write a short script based on their planning worksheet.

DEBRIEF & REFLECT *(Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?)*

(5 minutes)

- Bring group back together.
- Discuss the process of turning the **improvisation** into a procedural text/script.
- Ask students if they think another group would be able to recreate their **improvisation** based only on what they wrote in the script.
- *Ask:*
  - *What was difficult for you about this experience? How did you overcome those difficulties?*
  - *Do you think you will remember more about **atoms** and **molecules** because of what you have created in these theatre lessons?*
- If time allows, have a group read another groups script and act it out.

EXTENSION *(Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.)*

- Allow students time to complete their scripts.
- Have groups exchange scripts.
- Work on blocking the scripts, have a stage manager write down the movement.
- Perform the scripts for an audience.
- *Ask: What was different? Why? What changed? Was the script followed?*
- Discuss how to apply these same theatre skills to other subject areas such as social studies.

Sample Script from *Peter Pan*

CAPTAIN HOOK: Shiver me timbers, Smee! I can't sleep. I can't eat. I won't rest until I find Peter Pan. Just look what he did to me! *(Holds up arm with hook.)*

SMEE: A terrible, terrible thing, Captain. Chopping off your arm!

CAPTAIN HOOK: And feeding it to a crocodile. That slithering reptile likes the taste of me! He follows me where ever I go just hoping to get a nibble!

SMEE: Terrible, terrible! Thank heaven the beast swallowed a clock!

CAPTAIN HOOK: That's the only thing that keeps me alive, Smee. Soon it will wind down and you know what that means. *(Uses his finger for tick-tock.)* Tick. Tock. Tick. Tock. Tick… *(Finger is stuck.)*. No tock!

SMEE: Oh, terrible, terrible!

Atomic/Molecular Theatre
Story Planning Worksheet

Question: What can be created when _____ atoms and _____ atoms bond together. (Add more atoms as needed.)

Characters (names and descriptions):

Setting (be specific):

Exposition (the beginning that introduces character, setting and any background information the audience needs):

Complication (the problem is introduced):

Crisis (the characters realize they must make a decision):

Climax (the most exciting part where the characters take action on their decision):

Resolution (tying up loose end, the ending):

How are you going to use voice and body to convey the characteristics of the atoms and molecules?

Using this planning guide write a set of instructions, in the form of a script, for another group to recreate this improvisation.