ARTS IMPACT LESSON PLAN

Dance and Science Infused Lesson

Circuit Dance

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Grade Level: 4

Enduring Understanding

Shapes and movements can communicate pathways in a series or parallel circuit.

Lesson Description (Use for family communication and displaying student art)

In this dance and science lesson, students explore movements that show levels of energy. In small groups, they create dances that show either a series or a parallel circuit.

Learning Targets and Assessment Criteria

Target: Demonstrates different levels of energy.

Criteria: Dances with low, medium and high energy.

Target: Demonstrates either a serial or a parallel circuit.

Criteria: With a group, dances along a single pathway or dances along a pathway that starts with

one pathway, branches into three pathways and ends up back into one pathway.

Vocabulary

Arts Infused:

Energy

Pathway

Science:

Circuits

Electricity

Electrons

Parallel

Series

Arts:

General Space

Self-Space

Shape

Materials

Museum Artworks or Performance

Pacific Northwest Ballet: Cendrillon, Feb. 10, 2017

Materials

Music for Creative Dance Vol. II

(“Caribbean Leaps” and “Potpourri II”)

Poster of Series Circuits

Poster of Parallel Circuits

Class Assessment Worksheet

Learning Standards

WA Arts State Grade Level Expectations

For the full description of each WA State Arts Grade Level Expectation, see: <http://www.k12.wa.us/Arts/Standards>

Element: Space, Pathway

Element: Energy

Skills and Technique: Control and Focus

Audience Skills

Creative Process

Performance Process

Responding Process

Connection Between Dance and Science

Next Generation Science Standards

<http://www.nextgenscience.org/next-generation-science-standards>

Performance Expectations

4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

Science and Engineering Practices

Constructing Explanations and Designing Solutions

Disciplinary Core Ideas

PS3.B: Conservation of Energy and Energy Transfer

Crosscutting Concepts

Energy and Matter

ICON KEY:

🗏 = Indicates note or reminder for teacher

🗹 = Embedded assessment points in the lesson

Pre-Teach

Introduce Circuits and Pathways science kit, BrainDance, general and self-space, and shape.

Lesson Steps Outline

1. Prepare students for dancing circuits by reviewing their prior knowledge.

2. Review appropriate dance behavior.

3. Lead students in BrainDance warm-up.

Music: “Potpourri” from Music for Creative Dance, Volume II by Eric Chappelle.

4. Demonstrate and guide moving with low, medium and high energy.

Music: “Skippy Ska” from Music for Creative Dance, Volume II

🗹 Criteria-based teacher checklist: Dances with low, medium and high energy.

5. Demonstrate and guide dancing pathways.

Music: “Skippy Ska” from Music for Creative Dance, Volume II

🗹 Criteria-based process assessment: Explores pathways.

6. Demonstrate and guide dancing in circuits.

Music: “Caribbean Leaps” from Music for Creative Dance, Volume II

🗹 Criteria-based process assessment: With a group, dances along a single pathway or dances along a pathway that starts with one pathway, branches into three pathways and ends up back into one pathway.

7. Ask students to create a series or parallel dance with their group.

🗹 Criteria-based teacher checklist, self-assessment: With a group, dances along a single pathway or dances along a pathway that starts with one pathway, branches into three pathways and ends up back into one pathway.

8. Direct performance and response.

🗹 Criteria-based teacher checklist, peer assessment: With a group, dances along a single pathway or dances along a pathway that starts with one pathway, branches into three pathways and ends up back into one pathway.

LESSON STEPS

1. Prepare students for dancing circuits by reviewing their prior knowledge.

What do you know about circuits?

What is the difference between a serial circuit and a parallel circuit?

2. Review appropriate dance behavior.

What are some things we need to think about when we dance to stay physically and emotionally safe?

3. Lead students in BrainDance warm-up. (BrainDance originally developed by Anne Green Gilbert, [www.creativedance.org](http://www.creativedance.org), reference: Brain-Compatible Dance Education, video: BrainDance, Variations for Infants through Seniors).

Music: “Potpourri” from Music for Creative Dance, Volume II by Eric Chappelle.

Breath

Your muscles and your brain need oxygen, so inhale through your nose and exhale through your mouth. Breathe deeply and slowly.

Tactile

Wake up your hands. Tap from the top of your head all the way to your toes.

Core-Distal

Grow into a big shape. Shrink into a small shape.

Head-Tail

Curl your spine forwards and backwards and forwards and backwards.

Curve from side to side.

Upper Half

The top half of your body dances with high energy, while the lower half is frozen.

Lower Half

The lower half of your body dances with low energy, while the upper half is frozen.

Body-Half Right, then Left

Your left side is frozen and only the right side dances with low energy.

Now the right side is frozen and the left half dances with high energy.

Cross-Lateral

Use your hands to draw lines crossing in front of your body. What other crisscross movements can you do?

Eye Tracking

Keep your eyes on your right hand. Move it from one side to the other and up and down.

Watch your left hand as you smoothly move it from side to side and up and down.

Spin/Vestibular

Glue your arms to your sides. Turn. Freeze in a shape. Turn the other direction. Freeze in

a shape.

Breath

Breathe quietly.

4. Demonstrate and guide moving with low, medium and high energy.

Music: “Skippy Ska” from Music for Creative Dance, Volume II

Describe what type of energy am I demonstrating? (Low Energy) What do you see? (Floppy arms, slow moving body…)

Let’s all try dancing with low energy.

Now what type of energy am I demonstrating? (Medium Energy) What do you see? (More movements, faster pace…)

Let’s all try dancing with medium energy.

And what energy do I have now? (High Energy) What do you see? (Fast intense movements…)

Let’s all try dancing with high energy.

🗹 Criteria-based teacher checklist: Dances with low, medium and high energy.

5. Demonstrate and guide dancing pathways.

Music: “Skippy Ska” from Music for Creative Dance, Volume II

Pathways are the roads that dancers follow when they dance. Let’s all dance in either a curvy or straight pathway in the general space.

🗹 Criteria-based process assessment: Explores pathways.

6. Demonstrate and guide dancing in circuits.

Music: “Caribbean Leaps” from Music for Creative Dance, Volume II

I am going to demonstrate dancing in a series circuit. I need two volunteers.

Since it is a series circuit, we will all follow in a line and we will use a special movement with energy to show the bulbs lighting up.

Let’s get you into small groups of three or four so that you dance in a series circuit with low, medium, or high energy.

Now I need three volunteers to demonstrate a parallel circuit.

Since it is parallel, we will start at the same point, but then we will separate into three individual pathways using a special movement with low, medium, or high energy to show the light bulbs lighting up, and we will come together into a single pathway to return to the battery.

With your groups, dance in a parallel circuit with energy.

🗹 Criteria-based process assessment: With a group, dances along a single pathway or dances along

a pathway that starts with one pathway, branches into three pathways and ends up back into

one pathway.

7. Ask students to create a series or parallel dance with their group.

Decide with your group what type of circuit will you dance, series or parallel. Think how you will travel along the pathway? (tiptoe, hop, stomp, skip, crawl…)

What energy will you use to show the light bulb? Not all lightbulbs are the same, so be creative when you choose your movements to show how your lightbulb is lighted.

Practice with your group. Ask yourselves how your movements show your circuit.

🗹 Criteria-based teacher checklist, self-assessment: With a group, dances along a single pathway or dances along a pathway that starts with one pathway, branches into three pathways and ends up back into one pathway.

8. Direct performance and response.

Let’s review audience expectations. Can anyone tell me what is expected of an audience?

After each performance, the audience will tell us if the dance was a series or a parallel circuit and why. They will also tell us about the type of energy used and the pathways seen.

🗹 Criteria-based teacher checklist, peer assessment: With a group, dances along a single pathway or dances along a pathway that starts with one pathway, branches into three pathways and ends up back into one pathway.

Follow up: Create a whole class dance with multiple circuits.

ARTS IMPACT LESSON PLAN Science and Dance Infused Lesson

4th Grade: Circuit Dance

CLASS ASSESSMENT WORKSHEET

Disciplines: Dance; Science and Dance

Concept: Energy; Pathways/Circuits

Criteria: Dances with low, medium, and high energy; With a group, dances along a single pathway or dances along a pathway that starts with one pathway, branches into three pathways and ends up back into one pathway

Total 2

Student Name

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What was effective in the lesson? Why?

What do I want to consider for the next time I teach this lesson?

How could I connect the concepts in this lesson with other disciplines?

Teacher

Date

ARTS IMPACT FAMILY LETTER

ARTS AND SCIENCE INFUSED LESSON: Circuit Dance

Dear Family:

Today your child participated in a Dance and Science Infused lesson. We talked about Series and Parallel Circuits.

We discovered how to dance in low, medium, and high energy and how to dance on different pathways.

We created dances that used energy and pathways to show serial and parallel circuits.

At home, you could ask your child what types of energy (low, medium, high) you use doing different things (whipping eggs when cooking, reading, walking up the steps, washing dishes, brushing teeth). Ask them to demonstrate a series circuit and a parallel circuit by dancing.

Enduring Understanding

Shapes and movements can communicate pathways in a series or parallel circuit.