SOLAR LESSON PLAN FORMAT

Age Level: Toddler
Subject(s) Area: STEAM - Science
Materials Needed: blocks, craft sticks, shapes, branch, pine tree branch

Standards:

Code and description:

ELG: Cognitive: Problem solving

ELG: Social Emotional: Relationship with others

ELG: Science: Identify different parts of a tree

ELG: Physical Development: Fine-motor

Objectives:

What will the students know or be able to do? At what Bloom's Taxonomy- descriptive words. To what accuracy?)

- Experiments with different uses for objects Shows imagination and creativity in solving problems Uses a variety of strategies to solve problems Applies knowledge to new situations.
- Responds to and interacts with other children
- Build a three-dimensional tree that can hold the most shapes
- Identifying the different parts of the tree

Learning Activities:

Technology: *variety of technology used in the lesson*

Pictures will be taken through the various stages of building.

Required Vocabulary *(list of age appropriate definitions)*

Trunk

Branches,

leaves

Opening Element: *(Anticipatory set, setting a purpose for learning, assessment of background knowledge, Review, Etc.)*

Read Chicka Chicka Boom Boom

What kind of plants do we see growing outside? What are the really big plants? They have a tall trunk and a lot of green leaves in the summer.

Do you think we can build a tree that holds shapes?

Instructional Methods:

1. After reading the book **ask**: How can we build a tree that can hold different shapes using these materials? We have some blocks, sticks, and shapes.
2. What material do you think will be used as the trunk? Remember, the trunk is the **biggest** part of our tree, which material looks like it is the biggest?
3. Which material do you think will be used as the branches? Remember, branches are a skinnier part of the tree, but can also be long to hold a lot of leaves.
4. Which material do you think will be used as the leaves? The leaves connect to the branches.
5. **Imagine**: Give the students time to experiment and play with the materials. Let them become familiar with the objects, and ask them again which materials can be associated with the leaves, branches, and trunk.
6. **Plan**: discuss and collaborate together or in small groups, on how to build a tree that can hold more than one letter. If we want our tree to hold the most shapes, are we going to start by putting our branches or trunk on the bottom?
7. **Create:** build your tree. Children can work in groups of two.
8. Take a picture of the tree.
9. **Improve:** discuss how you can improve your tree. Allow students to redesign their tree to try and hold more shapes. Ask different groups what they did to hold a lot of shapes.
10. Take a picture of the tree

Guided Practice Strategies: *Levels of scaffolding, various elements broken into parts, etc.*

I do – I show them the different parts of the tree, and demonstrate that the blocks go on the bottom just like a trunk does.

We do – we discuss the different ways to make our tree hold more shapes.

You do – children work together or independently to build the final product.

Independent Concrete Practice/Application: *practice of skills in practical ways*

Science: learning about the different parts of the tree

Technology: help take pictures of alphabet tree

Engineering: constructing a tree that can hold more than one alphabet letter

Art: creating an abstract tree using the given materials.

Math: count how many shapes were on your tree

Differentiation:

Decrease or increase the amount of blocks and sticks used to build the tree

Focus on the colors of the shapes instead of the names of the shapes

Reflective Questions: *(Questions asked to help students process or reflect upon content)*

How did you get more shapes on your tree?

What did you use to help your shapes stay on the tree?

Is your tree tall or short?

Is it harder to balance the shapes on the tree when it is tall?

Wrap-Up:

How many shapes did you get to fit on our tree? Let's count together. Who had the most shapes on their tree? Can you tell me the different parts of the tree by pointing to your model?

Assessment:

Formative- *How does your assessment show individual measurability?*

Quick checks: child works nicely with partner. Child uses each material in the correct way (blocks = trunk, popsicle sticks = branches, shapes = leaves). Child changes material to make it better, problem solving how to add more shapes

Summative: *Include examples of what you would assess at the end of learning.*

Final product: there is improvement in fixing the materials in order to add shapes. Child identifies materials and how they are similar to a tree's parts, and is able to put more than one letter on the tree.

Reflection:

Summary of strengths, weaknesses, changes made during implementation, changes to be made in the future, review of what the children learned, etc.

This was a very interesting lesson to teach. I had never done a STEAM lesson before and I was interested in seeing how it would work, especially with toddlers. My first group of kids was the most difficult, I started out by passing around the branch and the pine tree branch. They enjoyed feeling it and talking about how it felt on their hands. These boys did not last very long with their attentions after I explained to them that I wanted them to build a tree with the blocks, sticks, and shapes. I had some playing the drums and others trying to cut their shapes with the popsicle sticks. I did have one boy who had a really fun time just building with the blocks so I focused my attention on him and asked him questions about why his tower might fall down if it was too tall. I redirected the boys many times to try and build with their shapes and sticks. My next two groups went smoother and they were more focused. They had a fun time using the shapes and stacking them. Throughout the lesson, I asked what would happen if you used more sticks, shapes, etc. We observed shapes falling or sticks falling and thought about what we could change to prevent that from happening again. If I were to present this again in the future I would bring in an image of a tree. It was hard to explain that I wanted the blocks to be the trunk when I did not have a visual. I would also question them about the different items before explaining to them that the items represented different parts of the tree. I would also bring in a real leaf.