



Pollination: Secret observations

YEAR ROUND GRADES 3-5

DESCRIPTION:

STUDENTS WILL MAKE OBSERVATIONS OF THE NATURE FOUND ON THEIR SCHOOL GROUNDS IN ORDER TO USE SPECIFIC AND DETAILED LANGUAGE TO DESCRIBE SPECIMEN.

DURATION & TYPE OF PROGRAM:

2 LESSON PERIODS, ABOUT 45 MINUTES EACH

ESSENTIAL QUESTIONS:

MATERIALS

1. PENCILS FOR STUDENTS
2. CLIPBOARDS OR OTHER WRITING SURFACE FOR STUDENTS
3. RECORD SHEET, 2 PER STUDENT (SEE APPENDIX)
4. NATURAL ITEMS FOUND IN SCHOOL AREA, ONE FOR EACH STUDENT (ACORN, PINE

Pre-lesson

1. TEACHERS SHOULD PREPARE AN INDEX CARD OR SMALL PIECE OF PAPER FOR EACH STUDENT THAT HAS THE LIST OF QUALIFIERS FOR THE NATURAL ITEM (ATTACHED) ON ONE SIDE AND IS BLANK ON THE BACK. TEACHER SHOULD ALSO FIND ONE NATURAL ITEM FOR EACH STUDENT FROM AROUND THE SCHOOL AREA, SEE MATERIALS LIST FOR IDEAS.
2. TEACHER SHOULD USE BANANA TO MODEL RECORDING OBSERVATIONS. START WITH BANANA ALSO INSIDE BROWN PAPER BAG. EACH OF THE NATURAL ITEMS SHOULD BE PLACED INSIDE A BROWN PAPER BAG.

Procedure

PART 1- CLASSROOM

1. SEAT STUDENTS IN A CIRCLE.
2. TELL STUDENTS THAT WE ARE GOING TO PLAY A GAME THAT WILL HONE OUR OBSERVATION SKILLS AND ATTENTION TO DETAIL. TELL THEM YOU ARE GOING TO DESCRIBE THE OBJECT INSIDE YOUR BAG, AND STUDENTS SHOULD TAKE TURNS GUESSING THE OBJECT. USE ADJECTIVES LIKE YELLOW, LONG, THIN, SOFT, LIGHT.
3. ONCE STUDENTS GUESS THE OBJECT ASK HOW THEY WERE ABLE TO FIGURE OUT WHAT THE OBJECT WAS, TAKE IT OUT TO SHOW THEM. DISCUSS HOW THE MORE SPECIFICATION YOU

CONE, STICK, LEAVES, ROCKS, SHELLS, FEATHER, GRASS, FLOWER) THERE CAN BE MULTIPLE ROCKS, SHELLS, FEATHERS, ETC., AS LONG AS THERE ARE DIFFERENCES BETWEEN EACH TYPE.

5. PAPER BAGS, 1 PER STUDENT
6. BANANA
7. RULERS, ONE PER STUDENT

GOALS:

- STUDENTS WILL BE ABLE TO USE THEIR SENSES IN ORDER TO MAKE DETAILED OBSERVATIONS ABOUT THE WORLD AROUND THEM.
- STUDENTS WILL BE ABLE TO IDENTIFY DISTINGUISHING QUALITIES OF PLANTS AND PLANT SPECIES IN ORDER TO ACCURATELY RECORD OBSERVATION DATA.

STANDARDS:

NGSS LEARNING STANDARDS:

4.LS1.2: CONSTRUCT AN ARGUMENT THAT PLANTS

USED, THE EASIER IT WAS TO GUESS THE OBJECT.

4. EXPLAIN THAT EACH STUDENT WILL RECEIVE A BAG WITH AN OBJECT IN IT. THEY MAY NOT TAKE THE OBJECT OUT OF THE BAG OR LET ANYONE ELSE KNOW WHAT IS IN THEIR BAG.
5. SHOW STUDENTS THE RECORDING SHEET THAT IS ATTACHED. MODEL FILLING IN THE OBSERVATION SHEET ABOUT YOUR BANANA. HAVE STUDENTS GIVE FEEDBACK AND SUGGESTIONS. DISCUSS WHY DETAILS ARE IMPORTANT AND ENCOURAGE STUDENTS TO PROVIDE AS MUCH DETAIL AS POSSIBLE, I.E. YELLOW WITH BROWN AND BLACK SPOTS RATHER THAN JUST YELLOW.
6. EXPLAIN THAT STUDENTS WILL BE RECORDING OBSERVATIONS FOR THE OBJECT WITHIN THEIR BAG ON THE CHART. OMIT THAT STUDENTS WILL BE DRAWING BASED ON RECORDED OBSERVATIONS.
7. ALLOW 5 - 10 MINUTES FOR STUDENTS TO RECORD OBSERVATIONS.
8. FACILITATE SWITCHING OF CARDS AND NOW INSTRUCT STUDENTS THAT YOU HOPE THEY WERE AS DETAILED AS POSSIBLE, BECAUSE SOMEONE ELSE WILL BE TASKED WITH DRAWING THEIR OBSERVED OBJECT BASED SOLELY ON THE DESCRIPTION.
9. ALLOW NO MORE THAN 10 MINUTES FOR DRAWING.
10. ONCE ALL STUDENTS ARE FINISHED, HAVE EACH READ THE RECORDED OBSERVATIONS AND SHOW THE DRAWING. WHILE THEY ARE READING AND SHOWING, THE PERSON WHO RECORDED THE OBSERVATIONS CAN TAKE THE OBJECT OUT OF THE BAG TO SHOW.
11. FACILITATE A DISCUSSION ABOUT WHICH PICTURES WERE ACCURATE, AND WHICH WERE NOT, AND WHY. DISCUSS DETAILS THAT COULD HAVE BEEN ADDED TO LESS THAN ACCURATE DESCRIPTIONS.

AND ANIMALS HAVE INTERNAL AND EXTERNAL STRUCTURES THAT FUNCTION TO SUPPORT SURVIVAL, GROWTH, BEHAVIOR, AND REPRODUCTION.

4.ESS2.1: MAKE OBSERVATIONS AND/OR MEASUREMENTS TO PROVIDE EVIDENCE OF THE EFFECTS OF WEATHERING OR THE RATE OF EROSION BY WATER, ICE, WIND, OR VEGETATION.

PART 2- OUTSIDE PRE-PROGRAM

TEACHER SHOULD PLAN TO USE AN OUTDOOR AREA WITH MANY NATURAL MATERIALS. THERE SHOULD BE ENOUGH RECORDING SHEETS FOR EACH STUDENT TO HAVE ONE. SET EXPECTATIONS FOR COMMON MEETING AREA AND HOW TO GATHER STUDENTS ATTENTION BACK TO CENTER WHEN IT IS TIME TO REGROUP FOR DISCUSSION.

PROCEDURE

- 1. SEAT STUDENTS IN A CIRCLE.**
- 2. TELL STUDENTS THAT WE ARE GOING TO PLAY A GAME THAT WILL ENHANCE THE OBSERVATION SKILLS THEY DEVELOPED IN PART 1, BUT THIS TIME THEY WILL EACH PICK AN OBJECT FROM THE AREA TO DESCRIBE, AND THEIR CLASSMATES MUST GUESS THE OBJECT.**
- 3. EXPLAIN THAT STUDENTS WILL BE ALLOWED TO PICK ANY STATIONARY, NATURAL OBJECT IN A DESIGNATED AREA OF WHICH TO RECORD OBSERVATIONS. THE POINT OF THE ACTIVITY IS NOT TO TRICK OR STUMP THEIR CLASSMATES, BUT TO MAKE IT VERY CLEAR WHICH OBJECT IS BEING DESCRIBED.**
- 4. ALLOW 10-15 MINUTES FOR SELECTING AN OBJECT AND RECORDING OBSERVATIONS ON THE SAME SHEET THAT WAS USED IN THE PREVIOUS ACTIVITY.**
- 5. AFTER THE OBSERVATION CARDS ARE FILLED OUT, STUDENTS WILL REGROUP AND TAKE TURNS READING THEIR OBSERVATIONS, AND OTHER STUDENTS WILL GUESS THE OBJECT THE STUDENT WAS DESCRIBING.**

Post-Lesson/ ConClusion

DISCUSSION QUESTIONS:

- **WHAT ARE OBSERVATIONS?**
 - **HOW CAN WE MAKE DETAILED OBSERVATIONS?**
 - **WHY IS IT IMPORTANT TO RECORD DETAILED OBSERVATIONS?**
 - **HOW MUCH DETAIL SHOULD BE INCLUDED?**
 - **WHAT MADE A DESCRIPTION EASY TO IDENTIFY?**
 - **WHAT MADE A DESCRIPTION DIFFICULT TO IDENTIFY?**
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