

Outside -

10:15-10:25: Observe the puddles we made

10:25-11:00: Puddle stations (Students are at each station for about ten minutes)

Inside- Everyone

11:00-11:20: Snack/ bathroom break

Discussion and Wrap-Up (inside)- Everyone

11:20-11:45: Read book about puddles and engage in discussion

11:45-11:55: Water bottle activity setup and pack up for the day

12:00: Conclusion

Learning Plan (First three E's of the 5E model)

Any of these phases can be repeated should you have more than one activity to describe OR a complex activity with multiple iterations of some phases.

What will we be doing (teachers) what will students be doing

ENGAGE

- We will begin with an ice breaker activity where all of the students sit in a circle. We will go around the circle and each student will say their name and something special/unique about them. The rest of the class will reply with "Hi... (say their name)."
 - If a student doesn't know what to say, we could ask them if they have pets, siblings, favorite toy, favorite food, etc.)
- We will have students engage in a discussion about puddles. We will ask them:
 - Where have you seen puddles in the past?
- Students will then draw a picture of where they think puddles come from. Emphasize to them that they don't have to know at this point. They should just make their best predictions.
- Students will compare their drawings with one another in small groups.
- We will share a few of the student's drawings in front of the whole class.
- We will have a group discussion about puddles. We will ask them:
 - Where have you seen puddles in the past?

EXPLORE

- (Teachers will have previously created puddles in a few places outside)
- Our students will then be instructed to observe the puddles we've created.
- We will do a demonstration where we dump water on the sidewalk to form a puddle. We will ask students:

- What do you notice? (compare puddles-different sizes, shapes, locations, etc.)
- Do you think puddles change overtime?
- We will have two more buckets of water with us outside. We will split the class in half. There will be two stations. For station one, there will be a puddle in the shade that students will observe. The second station will have a puddle in the sunlight. Students will get to observe both stations one and two.
- We will also do this same activity comparing concrete and grass
 - How are the puddles different? How are they the same? What do you think will happen to each of the puddles in the different locations?
 - We want to emphasize the fact that puddles will only form in the grass if the ground is very wet (saturated, moist,etc.).
- We will then do another demonstration where we pour water on concrete from both small and bigger holes. We want to emphasize the fact that not all rain forms puddles. Puddles form when water falls quickly and heavily.

EXPLAIN

- We will come inside and students will pair up.
- Students will discuss their observations of the puddles with each other.
 - To prompt the students' discussion the teacher will ask: What did you notice about the puddles outside?
 - How did the puddles in the shade/sunlight compare? Why?
 - How did the puddles in the concrete/grass compare? Why?
 - How did the puddles in the little holes/big holes compare? Why?
 - Do you think that it takes more rain to make a puddle in the soil or on concrete? Why is that?
- The teacher will then explain (and hopefully reinforce) how puddles form due to excessive rain, and how puddles may vary depending on their environment (divots in concrete vs grass etc)
 - The teacher will also explain how/why not all types of rain form puddles

ELABORATING/EXTENDING Understanding

- Students will stick with their previous partner and each pair of students will get an uncapped water bottle where they will make predictions on what will happen to the water during the week based upon what they learned today. (Have kids mark the water level on the bottle for day one).
 - The teacher will ask: What do you think happens to water when it disappears?
 - Why do you think this happens?
 - Next week...

- Students will record their observations of what happened to the water levels in their water bottles
- As students are leaving, we will ask them to look at the puddles with their parents and see if the puddles have changed.
- We (teachers) will take a picture of the puddles at the end of the day too to show the students how the puddles changed over the period of the day. We will show them the pictures next week.

Assessment Evidence (*This is the Evaluation Phase of the 5E approach)

Performance Task(s):

- Students can draw pictures that show their understanding of puddles
- Students will answer questions showing their formative knowledge about puddles

Other Evidence:

- Students might ask questions that engage with the inquiry and push their concepts about puddles.

Materials + Quantity:

- 3 large buckets
- 20 sheets of printer paper
- 8 20-oz water bottles with caps
- Tub of markers
- Tub of crayons
- 5 black Sharpies
- 1 sheet of chart paper
- 6 tubs of Play-Doh

Required Accommodations/Modifications:

- Gear up: If students can easily identify where puddles come from and how/why they vary from place to place; ask probing questions about why some puddles disappear faster than others. Maybe ask them about different types of soil and how that would affect the absorption/evaporation.
- Gear down: Pair students who are struggling with a student who is succeeding.

Additional Modifications for Individual Students:

- N/A