



TRANSPIRATION OBSERVATION AND PROGRAMMING

Grades K-3/4-8

OBSERVE TRANSPIRATION

K-3: The students will learn about transpiration.

4-8: Students will program the robots.

HALLO!

5 min

Hallo is Dutch for hello!

Greet your students. Be friendly. Use their name, ask a question, give a high five, or thumbs-up! Take roll. Mark down which students took a snack and tally the snacks given out.

SNACK / FREEPLAY

30 min

Enjoy free play:

Students enjoy playing outside and eating their snacks.

STORY TIME

15 min

Read the story:

Read to your students outside as they sit in a circle. Older students may choose to read their own books during this time.

STEM TIME

50 min

Grades K-3: Observe Transpiration

Say: "Today we are going to observe transpiration, just like we learned about during our reading time."

Materials:

-  Clear plastic bag
-  String, rubber band or twisty tie
-  A plant

K-3 Instructions:

1. Seal a plastic bag over the leaves of a living plant.
2. Leave it in sunlight for an hour to see what happens.
3. The STEM coach can lead a discussion where the students share their observations with a partner or individually to the whole class. Students will answer the questions on the student page.

Ask: What do you notice about the plant before and after the experiment?

Can you define transpiration? How can you see it in action here?

Why did the water droplets get drawn out of your plant after it was sealed inside the bag for some time?

Do you think a larger sealed plant would expel more water? Why or why not?



Materials:

-  Chromebooks
-  Robots
-  Legos

SPORTS / GAMES

25 min

Materials:

-  Cones to designate each side of the playing field

*Older students may practice their sport if they don't want to play the game.

HOMEWORK / FREE PLAY

20 min

CLEAN UP / DISMISSAL

5 min

Grades 4-8: Programming**4-8 Instructions:**

STEM Coaches will go to the portal and help students with the next Edison programming lesson they are on. Students may choose to build a Lego creation on top of their robots.

Link to portal: <https://www.stemexpandedlearning.com/robotics>

Corn, Bean, and Squash Relay

The students will relay race to see which team wins!

Instructions- This relay race will be best played on grass. Organize students evenly into teams with about 5 players per team. Teams will line up at one end of the playing field, about 6 feet apart from other teams. The instructor will assign each student in line as either corn, bean, or squash, and a corresponding action. For example, the first person in every line is assigned to be corn, the second a bean, the third a type of squash, and for remaining players they can be given other squash names. To play the game, the instructor will say "Go!" and the first student in line from each team will race to the other side of the playing field and back while doing the action associated with their assigned plant. Once they reach the starting point the next player may go. The game continues until everyone in the relay has had a turn to race. The team whose players make it all back first wins!

Assigned plants and associated actions can include: Corn- Jumping with hands reaching for the sky and legs together, Bean- jumping jacks, Cushaw- army crawl, Zucchini- spinning with arms out, Pumpkin- summersault or cart wheel. Side note: encourage students to watch out for any bees that may be in the grass as they perform their actions.

Instructions:

Allow your students some homework time. If they need help let them know you can help them. If they do not have any homework they can have some reading time, or they can have free time to go outside and play.

Clean up/pack up/dismissal

Clean up, pack up and head home.