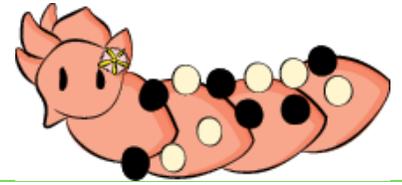




HEAT MAP AND PROGRAMMING

Grades K-3/4-8



MAKE A HEAT MAP OF YOUR PLAYGROUND

K-3 Students map out different warm, cool or just right zones in the playground.

4-8 Students will program their robots.

BONGU!

5 min

SNACK & FREE PLAY

30 min

STORY TIME

15 min

STEM TIME

50 min

Materials:

- Heat map
- Red, yellow and blue crayons or colored pencils

Bongu is Maltese for hello! (Pronounced bon-joo)

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 how many snacks were given out.

Enjoy Free Play:

Students will have their snack and enjoy time to free play.

Read the story:

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

Grades K-3: Make a heat map of your playground

Students investigate how warm or cool different materials in the playground feel and use what they learned to make a heat map.

Instructions:

1. Tell students that their skin works like a thermometer; have students investigate the temperatures of objects outside via touch. **Make sure students know that some things are not safe to touch because they may be too hot to touch, such as pavement, and that touching something that is too hot is dangerous because you might get burned.**
Ask: Does grass/dirt/metal feel different in sunlight and in the shade?
2. Ask students what they can see in the illustration of a playground on their heat map, then encourage them to use colors to describe and represent the temperatures they felt. Instead of coloring according to what color the material is, students can be asked to color how warm, cool or just right it felt. It's a temperature map!

Have students use these colors to represent temperature:

Red for **warm** temperatures.

Yellow for temperatures that are **just right**.

Blue for **cool** temperatures.

Ask: Have you ever seen colors to represent temperature before? **Example:** On a faucet, on a water dispenser, on a weather map.



STEM TIME

50 min

Materials:

- Chromebooks
- Robots
- Legos

SPORTS / GAMES

25 min

Materials:

- 1 bowl of ice cubes for each team

* Older students may choose to practice their sport instead of playing the game of the day.

HOMWORK / FREEPLAY

20 min

CLEAN UP / DISMISSAL

5 min

3. After your students have finished coloring their heat map, **Ask:** What looks like a good, safe place to play? **Example:** I could play in the grass under the shade of the tree. I could play under the umbrella and in the wet sand.

*Optional- Students can be given ice cubes to experiment by melting them on objects with different temperatures, and to observe whether they melt faster or slower on the various objects.

Grades 4-8: Programming

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>

Ice Cubes

Instructions- Organize the students into two equal groups. Have each team form a line facing each other. When the STEM Coach says "Go!" the player from each team closest to the bowl of ice will pick up an ice cube and try to melt it before the other team melts their ice cube. Each player can only hold the ice cube for 2-3 seconds before passing it down the line. They can rub it in their hands, rub it on their shirts, but they must not put it in their mouths. If it drops on the ground, they must pick it up immediately. If the cube makes it to the end of the line, the cube will continue to be passed back down the line toward the start. Whichever team melts their cube first wins that round. Multiple rounds can be played!

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 practice lining up.

