STEM Minutes
Simple STEM “thinking” challenges to offer during transitions and waiting times

To help youth stay engaged during waiting times, staff can invite them to play thinking games that use science knowledge, critical thinking, mental math, and logic skills. Simple STEM topics and brain teasers can minimize challenging behavior during transitions. As children become accustomed to these STEM minutes, they may transition quickly in order to participate in the lively exchange that these activities provide.

The ideas presented are a brief sampling of possibilities. Staff and youth will discover (or recall from childhood) many more in an ever-expanding collection of possibilities. Staff may want to enlist help from youth in bringing STEM facts to share or in leading STEM minute activities.

Fun facts:
Did you know?

Share fun, or amazing facts relative to science, math, and technology. For example, did you know that instead of drinking water, frogs soak it into the body through their skin? Excellent website sources for facts include:

http://www.sciencekids.co.nz/sciencefacts/animals.html
http://www.guinnessworldrecords.com/explore-records/animals
http://www.nasa.gov/facts/Space/

STEM riddles

Riddles challenge a child to think outside the box and to think beyond the obvious information to the less obvious in order to explain a situation. A riddle a day can transform waiting time into thinking time. For example: A young boy lives on the 10th floor of a 10-story apartment building. Each morning he rides the elevator down from the 10th floor to the first floor and goes to school. When he comes home from school, he gets on the elevator, rides to the 5th floor and then walks the final five sets of stairs to the 10th floor. Why?

Answer: He is only tall enough to reach the button for the 5th floor. The higher-numbered buttons are out of his reach.

For lots more riddles, check out: http://kids.niehs.nih.gov/games/riddles/tuff_stuff_riddles_rd2.htm or http://www.brainbashers.com/

Categories

Youth can take turns picking STEM topics or categories. For instance, “Name six animals that live underground.” Or pick a letter and a category and go down the line of waiting children allowing each to contribute an item to the category. For example, for the letter “T” and the category “Food,” children could respond “tacos,” “turnips,” and “toast.” Keep going until no one can think of another item that fits the category. Then start with a new letter and a new, STEM-related category.
Animal-Vegetable-Mineral or 20 Questions

This classic waiting game begins with the announcement, “I’m thinking of something…” The first guessing player asks, “Is it animal, vegetable, or mineral (anything that is not an animal or a plant)?” Then individuals take turns asking yes and no questions, trying to figure out what the item is. The group has to make a guess within 20 questions.

Going on a Picnic (or Going on an Expedition)

This oldie but goodie requires memory, patterning, and categorization skills. In the most familiar version, the caller begins, “I’m going on a picnic, and I’m taking _______. “ Usually the pattern involves each child bringing an item that begins with a letter in alphabetical order (apple, banana, carrot…), or an item that begins with the letter of their name (my name is Rebecca and I’m bringing raspberries). A variation is for the leader to pick a secret rule/category and the players must ask if they can bring an item: “May I bring a Frisbee?” If the secret rule is things that are round/circular, then the answer is yes. If the secret rule is things that are alive, then the answer is no. Players keep asking questions until they think they know what the secret rule is and they present their guess to the leader for confirmation. Think about how this might change what children would take if the group goes on an “expedition” or “trip to Australia”!

Taps (sometimes called Chopsticks)

This is an active game involving 2 players, known to many school-age children. It involves strategizing to get the opponent to point 5 fingers on one hand. The game begins with players pointing their index fingers toward one another. The players take turns tapping the other player’s fingers, adding the number of fingers together. This is a wonderful seated game for children who love to move! For more about how the game is played, check http://en.wikipedia.org/wiki/Chopsticks_%28hand_game%29

Mental math

Challenge children to do simple math problems in their heads while waiting. Older children might practice multiplication tables or multistep problems. Younger children could be asked simple addition or subtraction questions.

24® Game (easier if you have a specialized deck of cards)

This popular classroom and on-line math game can be played during waiting times. The caller presents four numbers. The children need to think about how they could add, subtract, multiply or divide the single digit numbers to get the answer 24.

Choking cautions

Young children can choke on small objects and toy parts. All items used for children under three years of age and any children who put toys in their mouths should be at least 1¼ inch in diameter and between 1 inch and 2¼ inches in length. Oval balls and toys should be at least 1¾ inch in diameter. Toys should meet federal small parts standards. Any toys or games labeled as unsuitable for children under three should not be used.

Other items that pose a safety risk and should not be accessible to children under three include, but are not limited to: button batteries; magnets; plastic bags; styrofoam objects; coins; balloons; latex gloves; and glitter.

Be aware of choking risks and food allergies when preparing and serving meals and snacks. Think about the size, shape, and consistency when choosing foods due to the potential choking risks in children. Food cut in large chunks, small hard foods, and soft and sticky foods should be avoided. The top choking hazards for children include: hotdogs, meats, sausages, fish with bones, spoonfuls of peanut butter, popcorn, chips, pretzel nuggets, raisins, whole grapes, raw carrots, fruits and vegetables with skins, and marshmallows. Be sure that food is cut in small pieces (no larger than ½ inch), grated, or finely chopped. Be sure that children are closely supervised when they are eating.

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Claudia C. Mincemoyer, Ph.D.
Better Kid Care Program Director
2182 Sandy Drive – Suite 204
State College, PA 16803
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