



PAPER MARBLE TRACK ENGINEERING

Grades K-3/Grades 4-8

BUILD A PAPER MARBLE TRACK

Grades K-8: Your students will get to engineer a paper marble track!

*Optional- Your students will get to take apart electronics to see the parts that make them.

YA'AT'EEH

5 min

Ya'at'eeh is Navajo for hello! (Pronounced yah-aht-eeh)

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.

SNACK / FREEPLAY

30 min

Enjoy Free Play:

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

STORY TIME

15 min

Read the story:

Read the story of the day. Older students may choose to read their own books.

STEM TIME

50 min

K-8: Paper Marble Track Engineering

Over the next few days the students will get to build paper marble tracks.

Materials:

- Paper marble track templates printed on cardstock
- Scissors
- Lots of tape
- Marbles for testing their track

Instructions:

1. Print out several templates using cardstock for each team to use.
2. Students will work together in teams of 3-6 students to create their own paper marble track.
3. Students will need scissors and a lot of tape to build a customized marble track.
4. Encourage the students to build a track with twists and turns and different heights. They can make it simple or elaborate!
5. Students will continue this activity over the next few days, but it doesn't have to stop there! If they are loving engineering their marble tracks, encourage them to continue building onto their tracks over the remainder of Engineering Month!



STEM TIME

50 min

Materials:

- Screwdrivers
- Old small electronics
such as:
- Keyboards
- Phone
- Laptops
- Cameras
- Clocks
- etc.

SPORTS / GAMES

25 min

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

Materials:

- Ball

HOMEWORK / FREEPLAY

20 min

CLEAN UP / DISMISSAL

5 min



*Optional- K-8: Take apart electronics

This activity is a great one to get students exploring and immersed in electronic parts! Gather old electronics either from a storage closet or room on campus, or go to a local thrift store and ask if they have any broken electronics. Additionally you can send a note home with students to bring old electronics to school.

Instructions:

1. Students will get a screwdriver and a small electronic to take apart and explore.
2. Try to identify the parts that were discussed during the reading and that can be found on their student sheets:
resistors, capacitors, transistors, and diodes. You may also look for other interesting things such as magnets in speakers, LED lights, motors, and microchips.

Caution: Do not take apart a large device such as a microwave or TV because large devices often have powerful capacitors that store voltage that can hurt you. Make sure whatever device you take apart is not plugged in.

Kick the Can

Objective- The students will attempt to kick the ball that is being protected by a guard.

Instructions- Choose one or two players to be the guard. Place a ball in the middle of the play area. The guard is in charge of protecting the ball. To protect it, the guard will try to tag anyone who comes near the ball before they can kick it. If a player is tagged they are out. If the guard is able to tag all the players the guard wins, but if a player is able to make it passed the guard and kick the ball, then they become the winner and the guard for the next round.

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.