

Age Level: 1st Grade
Subject(s) Area: Science
Materials Needed:

Paper cup
String
Pencil
The Book “Sounds all Around”

Standard:

1-PS4-4: Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. * [Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats.] [Assessment Boundary: Assessment does not include technological details for how communication devices work.]

Objectives:

Create string telephone devices and have an understanding of how communication has evolved throughout the years with 80% accuracy.

Learning Activities:

Opening Element:

1. Receive the students’ attention by clapping a pattern and having them clap the pattern back.
 - a. Students will gather at the carpet area when their table number is called to be dismissed to the carpet area.
 - b. When the students show that they are ready, I will pose the following question to them: **What is communication?**
 - i. Students will be given a chance to do a pair and share and discuss with what communication is with their partners.
 - ii. When everyone is finished I will ask someone to share their answer on what communication is and talk about why it is important in the world.
 - c. I will read the book “Sounds all Around” to the class.
 - i. The class will discuss the key concepts in the book and talk about how people and animals communicate.
 - d. After everyone is finished with their pair and share I will create an anchor chart in front of the classroom and we will write down different examples of communication in the world (Ex: calling, texting, sign language, Morse code, social media, light signals, yelling, school bells, barking, movement)

- i. I will discuss with the students how communication has changed throughout the years. The following questions will be posed: **What did they do before they had phones?**
 2. Next, the students will be guided in creating a paper cup telephone.
 - a. The students will be partnered using popsicle sticks and together the partners will create a paper cup telephone using paper cups and string.
 - i. The string will be cut previous to the assignment.
 - b. I will guide the students in punching a hole in their cup with their pencil and then pulling the string through the cup and tying it. Each group of partners will have two paper cups that are connected by a string.
 3. Before testing the telephones, I will tell the students that they can only whisper to their partners through their phones so that it doesn't get too loud in the classroom.
 - a. The students will spread out across the room and go as far apart as the string allows.

Reflective Questions:

What is communication?

Why is communication important?

How do you communicate at home?

How could you hear your partner so far away?

Required Vocabulary:

Communicate- the imparting or exchanging of information or news.

Vibrate- to move rapidly back and forth

Instructional Methods

Guided Practice Strategies:

- I will demonstrate how to create the paper cup phone to the students and model how it is used
- Students will brainstorm different ways that people communicate in the world

Classroom management/movement:

- Throughout the lesson, students will be able to move around the room with their partners and test out their paper cup phones.

Differentiation:

- Students that struggle with creating the paper cup phones will be assisted by their partners in poking the whole through and tying the string.
- Students that have a low attention span will be placed near the teacher to help manage their behaviors.

Wrap-Up:

4. After a few minutes I will call the class back to their circle and we will discuss the paper cup phone.
 - a. I will ask the students if they were able to hear their partner even if they were whispering. Why do you think you were able to hear your partner if you were so far away? Key idea: vibrating materials make sound and sound can make materials vibrate.
 - b. The class will take turns talking about other items that vibrate and make sound or vice versa (ex: speakers)

Assessment:

Formative:

Students will be assessed on their ability to follow directions and listen to the teacher based on teacher observations.

Students will also be observed using anecdotal notes based on their knowledge of communication around the world.

Summative:

Students will be assessed at the end of the unit using an exam.

Reflection:

This was a great lesson! The students were very engaged and many input their own examples when I asked them different ways that we communicate in the world. I decided to write the different types of communication that they mentioned on the board so that they could refer to them throughout the lesson. I read the students the book “Sounds All Around” which was an excellent book about sound and it connected the standards to the book very well. The book was a longer book and the students were very engaged throughout the book. I allowed the students to ask questions after the book and they posed some very good questions that promoted critical thinking. When we made the string telephones, I used popsicles sticks with the students’ names on them and assigned them partners. Once I grouped two students together for partners I gave them a cup and had them wait for directions. I had to remind the groups that had cups to stay quiet and to just hold the cups instead of messing around with them. I think if I taught this lesson

again I would wait to hand out the cups instead of handing them out right away as I did for this lesson. The students did a great job poking a hole in the cup with their pencils and problem solved when they had trouble poking a hole in the cup. When the students were putting the string through the cup I realized that we were going to need some tape to hold the string in place. When they were getting tape, I didn't have a procedure in place so there was a lot of chaos. I think in the future I will have a procedure in place just in case something like this would happen. When the students were testing out their cups, they had trouble hearing each other talk into their telephones. I noticed that some students tried different things such as coming closer to each other or moving the cup around. After the lesson, I realized that Styrofoam cups weren't the best cup to use because they absorb sound instead of transmitting it. To fix this problem, I will test out the telephone previous to the activity to see if there is another way that works better. My practicum teacher had the great idea of having different stations with telephones and having the students test out the materials at each station and make an observation about what station worked best for transmitting sound.