5th Grade-Waters of the Earth: Tides and pH

Essential Question: How does water tie Earth's systems together?
What is the importance of water on earth?

Students will investigate the role of water on Earth. How can pollution affect Earth's water? What else affects Earth's waters and what causes tides? Students will also have the chance of analyzing water to discover what "healthy" waters look like.

Standards

- 5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.
- 5-ESS2-2 Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.
- 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Materials provided by classroom teacher classroom teacher:

- Magnet for each student (If you do not have access to some magnets, students can test their magnetic slime at home.)

Materials provided by Greenbush:

- Iron fillings
- PVA
- Borax
- Popsicle sticks

Advanced Preparation for classroom teacher:

- Please have a cup of iron fillings already passed out to each student.
- Partner students to share a cup of Borax and PVA. (They can remain socially distant and still share because they will have their own tool to get the liquids.)
- Make sure each student has a popsicle stick and a plastic pipette.

Program Connection Information

Please use an external microphone (conference style) rather than the integrated one in the computer for the audio for your class and locate it centrally in the room. It can be difficult for the Greenbush teacher to hear the students using the computer microphone and therefore it reduces the interactive nature of the lesson. It is fine to use the computer webcam for your video source though.

All classes will take place using Zoom desktop video. If your building is already set up to use a desktop video application with a computer, simply open a browser and enter https://greenbush.zoom.us/j/6913388482 in the URL space. You may need to download Zoom launcher software (free download) if you don't already have it. This needs to be done in advance of the lesson.

If using a Polycom video conferencing unit (or any legacy type video conferencing unit) to connect to a ZOOM conference, make sure the unit is in "encrypted mode" then dial the following IP on the internet: 162.255.37.11 or 162.255.36.11 and once connected, they will ask for a MEETING ID: enter 6913388482 (for Kenzie at Science Center).

It's always a good idea to touch base with your district technology facilitator prior to your program to make sure all systems/equipment are in place and operational and no firewalls that might prevent you from connecting to Zoom.

Once you connect, you will enter a Zoom waiting room. Your Greenbush teacher will admit you into the final meeting room.

Classes take place at the following times:

9:00-9:45
10:00-10:45
12:15-1:00
1:15-2:00
2:15-3:00

If you log in during one of those times, you may connect during another class' lesson. If you do, please check your connection to make sure things are working properly and then leave the meeting until your scheduled time by selecting "End Meeting" in the lower right corner of your Zoom screen and click on "End Meeting". You will need to rejoin the meeting at your scheduled time. This prevents your site from interfering with the lesson currently in progress. After your lesson is finished, please leave the meeting.

If you have questions, please call Kenzie Heatherly at Greenbush (620-724-6281).

Prior to the IDL lesson, please pre-teach and practice these cooperative learning techniques with your students. These will be used in the IDL lessons this school year.

Round Robin

Each member of the team takes a turn sharing orally with the team.

Rally Robin

With a partner, students take turns sharing brief oral responses.

Timed Pair Share

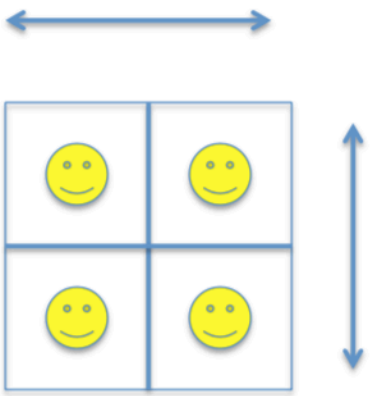
In pairs, students share with a partner for a predetermined time while the partner listens. Then partners switch roles.

Stand Up, Hand Up, Pair Up

Students move around with hands in the air and quickly find a partner with whom to share or discuss. Once students find a partner, they give each other a "high five" and stand together, ready for the next instructions.

More terms to know –

Shoulder Partner: The person sitting on the student's right or left.



Face Partner: The person sitting facing the student.

**If you can get pH strips, you can have your students predict and test more liquids to find their pH. (Ask your high school science teacher if they have some to spare.)