

Lesson/Activity Title:

MEASURE YOUR WORLD



Time: 10-15 minutes for focus; 10-15 minutes for teach model; 10-15 minutes for guided practice; 45-60 minutes for independent practice; 20-30 minutes for closure

Instructional Goals:

- The students will use the **PebbleGo** Science online database to learn about units of measurement
- The students will use **PebbleGo** Science online database to compare the metric and imperial systems
- The students will take research notes as they read articles from the **PebbleGo** Science online database
- The students will create their own "Measure Your Classroom" game

Integrated Content Standards

- AASL Standards Framework for Learners (<http://standards.aasl.org/wp-content/uploads/2017/11/AASL-Learner-Framework-Spread.pdf>)
- Common Core English Language Arts/Literacy Standards (www.corestandards.org/ELA-Literacy/)
- National Educational Technology Standards for Students (<https://www.iste.org/standards/for-students>)
- NCTE/IRA Standards for English Language Arts (www.ncte.org/standards/ncte-ira)
- Next Generation Science Standards (www.nextgenscience.org/)

Materials/Resources:

- **PebbleGo** Science online database
- Measurement Research Handout
- Measure Your Classroom Handout
- Rulers
- Art supplies such as markers, crayons, or colored pencils

Procedures/Lesson Activities:

Focus

1. Bring the class together and write the word "measurements" for students to see. Ask students to define the word and record their responses.
2. Brainstorm ways to measure things and record student responses. You could ask prompting questions such as:
 - How could you measure the length of your pencil?
 - How could you measure your height?
 - How could you measure the temperature?
 - How could you measure the weight of an apple?
3. Explain to students that they will now learn more about measurements and then use that knowledge to help create a game for the classroom.

Teach/Model



4. Demonstrate accessing the PebbleGo Science online database. Click on the "Measurements" subcategory. Point out to students that they will need to use all three articles to complete their assignment, including "Length," "Metric Versus Imperial," and "Time." Select the first article, "Length."
5. Model navigating the article by clicking on various tabs such as "Imperial System" and "Measuring Tools."
6. Point out the readaloud feature of the PebbleGo Science online database by clicking on the appropriate icon and demonstrating its use.
7. Distribute the "Measurement Research Handout" and review the instructions with the class.
8. Tell students they will now conduct their own research before creating a game for the classroom.

Guided Practice

9. Begin filling out the "Measurement Research Handout" with your class. Help students use their own words to create the two definitions. Demonstrate navigating the articles to find examples of tools used to measure. For example, you might navigate to the "Time" article and draw a picture of a clock in one of the boxes. Continue this until students understand how to complete the research handout.
10. Tell students that it is important to give credit to their source when researching a topic. Navigate to the bottom of the screen and click on the "Cite" button. Demonstrate transcribing the information onto the handout in the appropriate location.
11. Pass out the "Measure Your Classroom" handout and read the instructions together with students. Cut out one game piece to fill out together.
12. Choose an item in the classroom, such as a pencil. Write the word "pencil" in the "Object" line and then draw it. Explain to students that they will need to select a unit of measurement such as inches, meters, or centimeters. For example, write "inches" in the appropriate space on the game piece. Remind students to leave the circle with the word "length" blank on the frontside of the game piece.
13. Point out that the backside of the game piece will have the answer on it. Have students help you measure the pencil using the unit of measurement you all chose. Write the answer, such as "7 inches," on the back of the game piece. Point out to students that you also wrote the unit of measure on this side of the game piece as well.

Independent Practice

14. Pass out a ruler and art supplies for each student to use to create their game pieces.
15. Circulate the room as students are creating their game pieces and encourage students to search for unique classroom items to measure.
16. Provide students with a shoebox or cardboard box and a variety of art supplies to complete their diorama. Remind students to use their research to build their habitat.
17. Ask students to write a story using the "Diorama Story Handout." Have them cut their story out and glue it on the backside of their diorama.

Closure

18. Laminate the students' game pieces in preparation for use. Ask students to choose a game piece, guess/estimate the length of the item, and write the answer in the circle using a dry erase marker. You may divide students into small groups or choose to let students play the game individually.
19. Remind students to check their answers by flipping over the game piece and revealing the answer. Have students erase their answer and pass the game piece to the next person to guess the length of the item.



Extend/Enrich

Group all of your game pieces together and secure with a rubber band. Place the game in a center within your classroom and encourage students to revisit it during science and math center or during free time.

Ask students to create new game pieces using items around your school instead of just your classroom. Encourage students to make new game pieces using different units of measurement, such as centimeters instead of inches.

Name: _____



Measurement Research Handout

Use the **PebbleGo** Science database to help you complete the handout. In your own words, write the definitions of the word "length" and "time."

Draw a picture of at least two tools that you can use to measure.

A large empty rectangular box for drawing measurement tools.A large empty rectangular box for drawing measurement tools.

Write three units of measurements used in the Metric and Imperial System.

Metric System
1. _____
2. _____
3. _____

Imperial System
1. _____
2. _____
3. _____

Bibliography: _____

Name: _____

Measure Your Classroom

Create a game for the classroom using the game pieces below. Cut out each game piece. Write the name of an item in the classroom. Then write the unit of measurement you want to use to find the length of the item. Leave the circle with the word "Length" blank for classmates to guess later. Flip the game piece over and write the length on the backside after it has been measured.

Item: _____ Unit of Measurement: _____	Length: _____
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Item: _____ Unit of Measurement: _____	Length: _____
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Item: _____ Unit of Measurement: _____	Length: _____
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