

Name: _____ Teacher: _____

SENSORY PROCESSING: PILLBUGS | FORMATIVE ASSESSMENT TASK 4-LS1-2



Students in Ms. Gill's class were reading a book together called ***Next Time You See a Pillbug***. They learned that pillbugs are sometimes called "roly polys" and can be found in the soil under rocks. Students were surprised to find out that pillbugs are not insects. Scientists call them **isopods**. They belong to an animal group which also includes lobsters and crabs.



The book explained that pillbugs have body parts that help them survive in their environment.

- 7 pairs of legs
- a head with 2 antennae and 2 eyes
- a body with hard sections that can move back and forth so pillbugs can roll up in a ball



See if you can spot the body parts of the pillbug in this enlarged picture.



Pillbugs are 1-2 centimeters long

Ms. Gill challenged her students to go home and look for pillbugs under rocks in their yards or fields near their house.

TASK 1

A student named Kylie went home and looked under some rocks in her backyard. The picture below shows what she found. Describe what you observe in the photo (below) taken by Kylie.



TASK 2

Kylie collected some of the pillbugs and took them to class the next day. The teacher gave pillbugs to all of the students and asked them to observe and gently play with them. They noticed that the pillbugs behaved in different ways in the new environment.

The class made an “I Wonder Chart” that included the following student questions.

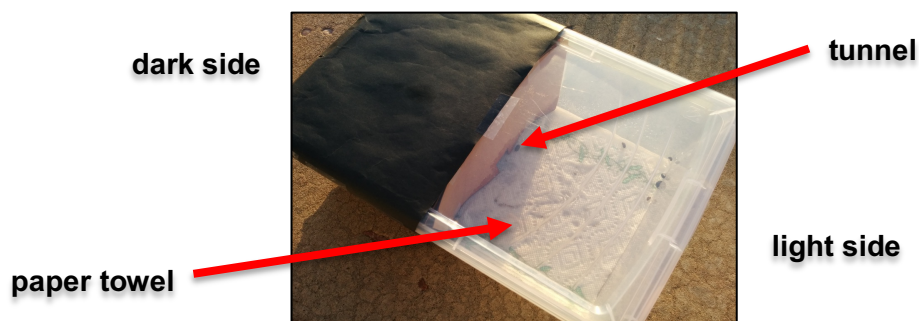
What We Wonder	
1.	Do pillbugs prefer light or dark?
2.	Do pillbugs react to smells?
3.	Can pillbugs travel through a maze to find food?
4.	Do pillbugs prefer fresh leaves or old ones?
* Write two more questions below that you think Kylie’s class could investigate.	
5.	_____
6.	_____

TASK 3

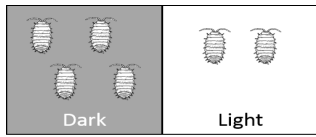
The class decided to investigate this question:

Do pillbugs prefer to be in dark areas or in the light?

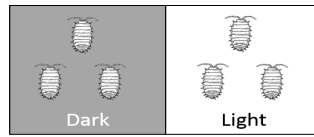
Students put their pillbugs in a container with a paper towel in the bottom. They covered half of the pan with black paper to keep out the light. The other half was left open to the light. They created a tunnel between the two sides. Each group put 6 pillbugs near the center of their container and watched what they did.



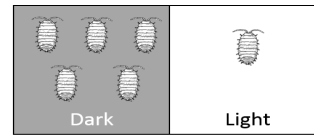
This is a picture of the class results after 20 minutes. Use this picture of the results to fill in the table below.



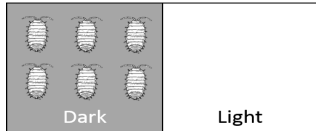
Group A



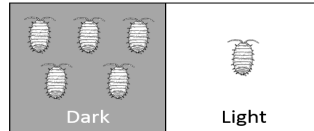
Group B



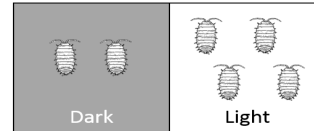
Group C



Group D



Group E



Group F

Pillbug Response to Light

Team Name	Number of pillbugs in the dark	Number of pillbugs in the light
A		
B		
C		
D		
E		
F		
Totals		

A. Which of their body parts do you think pillbugs use to sense light and dark?

B. Based on the class data, do you think pillbugs prefer to be in **dark** or **light** areas?

Use the **data** in the chart above to explain your answer.

TASK 4

Kylie and her classmates did more investigations with pillbugs to see how they responded to other changes in their environment. The students recorded what the pillbugs did using class notes (shown below).

Notes from Five Other Class Investigations

Investigation	Change Made to Pillbug Environment	Pillbug's Response
1	A block was put in the pillbug's way as it moved.	Pillbug touched the block with its antenna and then walked around it.
2	A small piece of apple was put near the pillbug.	Pillbug touched the apple with its antenna and started to eat the apple.
3	Someone touched the pillbug's antenna while trying to pick it up.	Pillbug rolled into a ball and put off a bad smell.
4	A pillbug was sitting on a wet paper towel. A student picked it up and moved it to a dry paper towel.	Pillbug rolled up in a ball.
5	The student moved the pillbug from the dry paper towel back to the wet paper towel.	Pillbug unrolled itself and started moving around.

A. Students learned in their first investigation that pillbugs use their **eyes** to sense light.

Based on the data gathered in the new investigations above, what is another body part that pillbugs use to sense things in their environment?

What evidence from investigations in the chart above shows that this is so?

B. Pillbugs don't have noses. They absorb oxygen through structures called **gills** found on their underside. They need a moist (wet) environment to breathe well. Their gills can sense moisture (wetness). What evidence in the class notes from the new investigations shows that pillbugs can sense moisture?

C. Choose one of the 5 new investigations the students did and draw a model of what happened in the space below. Be sure to show how the environment was changed and how the pillbug responded. Use labels or speech bubbles to show what is happening in your model.

D. Explain how the pillbug in the model you drew received information about its environment through its senses and then describe how it responded to this information.
