

Name _____

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Shadow Stations

2.5 I can classify objects based on properties and patterns

2.7 I know many types of change can occur: I can observe, measure, record, and predict changes in size and position

I understand that shadows form when a light traveling from a source is blocked.

Station 1

Shadow Box Theater

Transparent- When light strikes it, almost all of it passes through (glass).

Opaque- When light strikes it, none passes through.



Make a popsicle stick puppet and hold it inside the shadow box. Hold the flashlight with the other hand. Watch the shadow on the screen.

1. What happens if you move the popsicle stick figure deeper inside the box (closer to the paper side)? _____

2. Put other objects in the shadowbox. Can your partner guess what the object is from its shadow? _____

3. What happens if you dim the light source (move it further away)?

Station 2

Black Rabbit in the Sun

Use the flashlight and the plastic figures to re-enact what happened to Black Rabbit in the story.

Use the separate sheet to draw what his shadow look like when it was morning?
...when it was noon? ...when it was afternoon?

4. What happens to the shadow when the light source is moved further away?

5. Place a bigger toy (like the trees in the story) next to a small toy. Angle the flashlight. When can you see the shadow for the small toy?

6. At what angle does the big toy block the small toy's shadow?

7. How can you change the size of the shadow?

8....the position? _____

9. When an object moves closer to the light source, what happens to the shadow? _____

Station 3

Computers

A) 10. Projector Simulation- What causes a shadow? (Circle one)

When the path of light is blocked

When an object moves closer to the light source

B) 11. Shadow Simulator

Move the clock to 12 noon. Look at the shadow.

It is SHORT or LONG? This is midday, or the middle of the day.

12. When is the shadow the longest?

MORNING (9) MIDDAY (12) AFTERNOON (15) SUNSET (18)

C) What Causes a Shadow? Video

13. What happens to your shadow when it is cloudy?

D) Bear's Shadow video

14. What makes a sun shadow fall one direction at one time and another direction earlier or later in the day? Circle one.

The position of the moon The force of the wind The position of the sun

E) Why Are There Shadows? Video

15. Why is your shadow bigger than mine? _____

16. When can I not see my shadow? _____

Station 4



Projector

17. What happens if you move your hand further away from the light?

18. What happens if the light is dimmed (if the other lights are on too)?

19. How can you change the size of the shadow?

Station 5

Dr. Seuss

20. Pick up a Dr. Seuss Bulletin Board sheet and make predictions about the silhouettes!