

# What can you see in a box with no light?

A place that receives very little light is the inside of a box. Use a box to help you experiment with light. We need light to help us see things and there is a lot we can learn about how light interacts with objects to make sight possible.

## What you'll need:

- a box
- a pencil or pair of scissors
- your viewing cards (next page)



*This student is observing the things inside a peep-hole box. The box has a hole cut in the top to let light in and a viewing hole cut in the side.*

## What you'll do:

Step 1: Poke or cut a small viewing hole in the side of your box. It should be big enough to see through but not so big that it lets a lot of light in.

Step 2: Glue or tape your viewing cards to the inside of the box.

Step 3: Use the viewing hole to observe your cut-out cards inside your dark box.

## Decorate your box to look like a home

You can use toys, paper, Popsicle sticks and artwork to decorate your box to look like a house! Remember not to cut windows or doors into your box because it needs to be dark inside when it is closed.



*Use toys, paper, Popsicle sticks, and artwork to decorate the inside of your box to make it a home!*



## Viewing Cards

Cut out the cards and place them in your viewing box. Describe what you can see in different light conditions.



### Can you see color?

What colors can you see in your dark box?



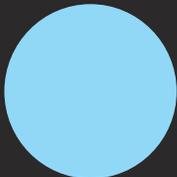
Red



Orange



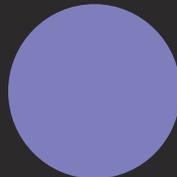
Yellow



Blue



Green



Purple

### Can you see shade?

What shades can you see in your dark box?



1



2



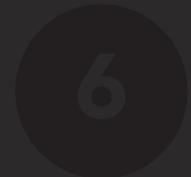
3



4



5



6

### What size text can you see?

What text size can you read in your dark box?

#### 8 pt font:

How many birds does it take to  
change a light bulb?

**Surely toucan do it!**

#### 10 pt font:

How did the electrician  
brighten up his garden?

**By planting tulip bulbs!**

#### 12 pt font:

What did the yellow  
light say at the  
traffic stop?

**Don't look, I'm  
changing!**

#### 14 pt font:

What is the difference between a  
hippo and a light bulb?

**One is heavy and one is lighter!**

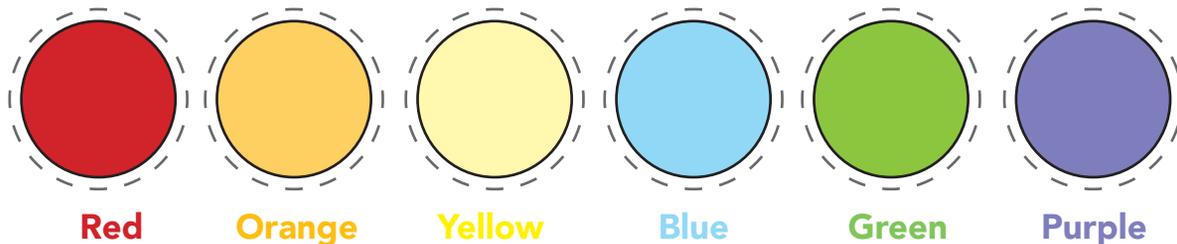
#### 16 pt font:

Say this as fast as you can!  
No need to light a night-light  
on a light night like tonight.

# Observe your box using only a viewing hole

Observe the cards inside your dark box (before you make a skylight).

Circle the colors that you can see in your dark box.



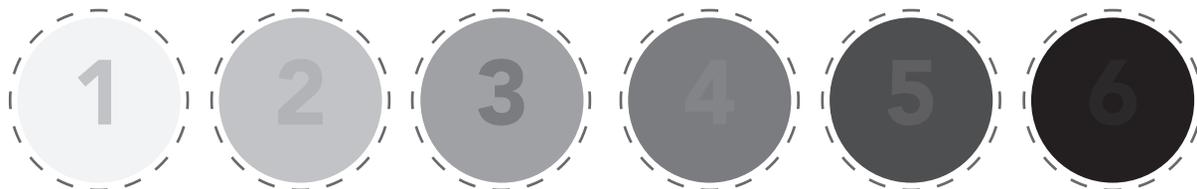
Describe how colors seem in your dark box.

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Circle the shades of gray that you can see in your dark box.



Describe how shades of gray seem in your dark box.

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Which jokes can you read? Which font sizes you can read in your dark box?

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