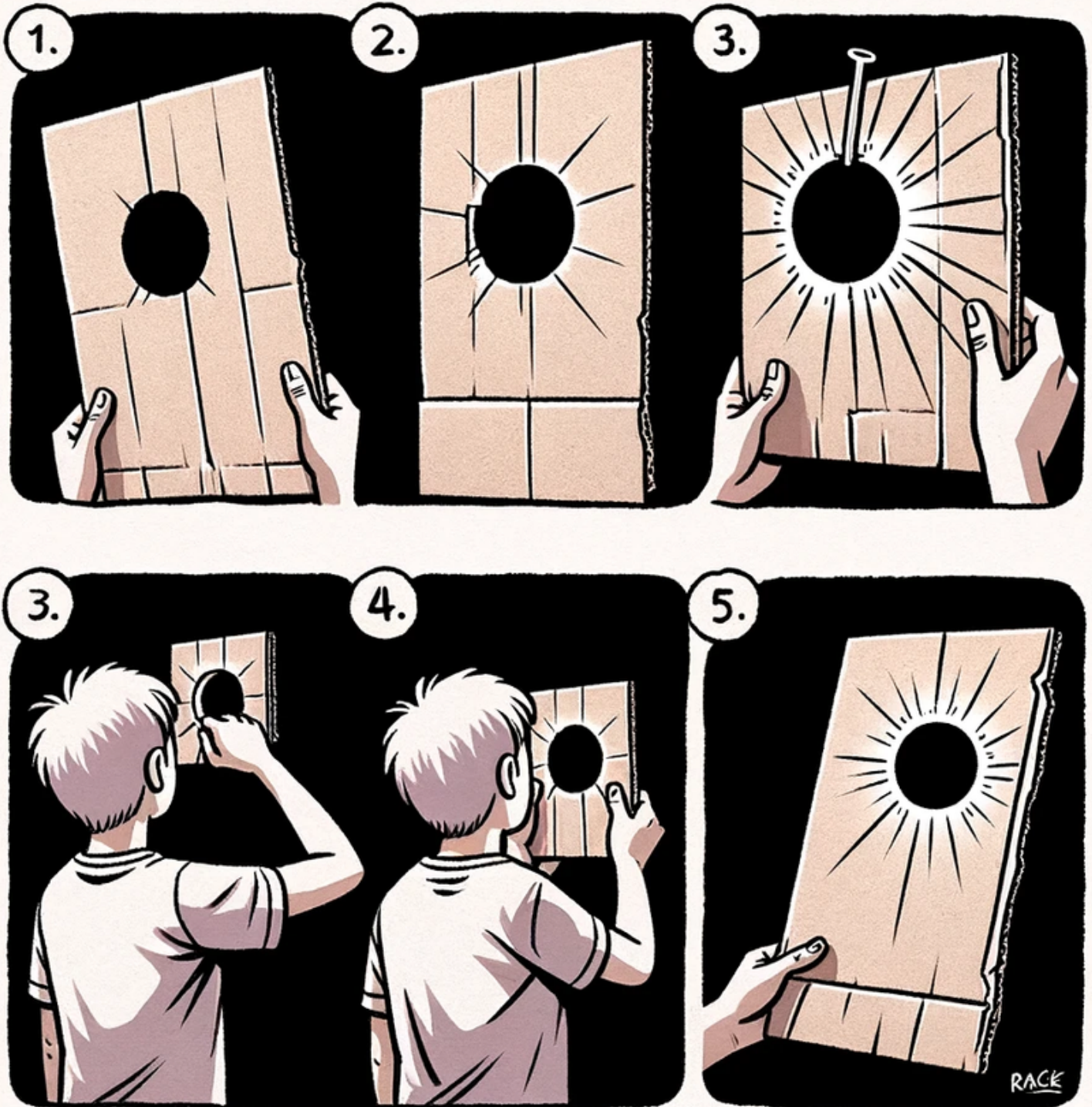


# DIY Solar Pinhole Projector & Watching Your Savings Grow



*Creating a DIY pair of solar shades for viewing an eclipse is a creative idea, but it's crucial to prioritize eye safety. Homemade filters or sunglasses (even very dark ones) are not safe for looking at the sun or an eclipse. The only safe way to view the sun directly is with special-purpose solar filters, such as "eclipse glasses" or handheld solar viewers that meet the ISO 12312-2 international standard for such products. So we will be creating a solar projector instead!*

**Solar Projector:** This simple device allows you to observe the eclipse indirectly by projecting the sun's image onto a surface. Here's how you can make one:

Materials Needed:

- 2 pieces of stiff white cardboard (e.g., two paper plates)
- Alternatively, 1 piece of cardboard and 1 sheet of plain white paper
- A pin or a thumbtack
- A sharp knife or scissors
- Tape

Steps to Make a Pinhole Projector:

1. Prepare the Pinhole:

- Take one piece of cardboard and make a small, neat hole in the middle using a pin or thumbtack.

2. Create the Projection Screen:

- If using two pieces of cardboard, the second piece will serve as your screen. If you're using a piece of paper, tape it to the ground or a wall where it will stay flat.

3. Find the Right Spot:

- Stand with your back towards the sun. Hold the piece with the pinhole above your shoulder, allowing the sun to shine through the pinhole.

4. Project the Image:

- Position the second piece of cardboard (or the paper) in front of the pinhole card, so it catches the light passing through the pinhole. You should see a projection of the sun on the cardboard or paper.

5. Watch the Eclipse:

- During the eclipse, you'll see the shape of the sun change on your makeshift screen, allowing you to safely observe the phases of the eclipse.

**Remember, do not look directly at the sun through the pinhole, the projection screen, or without proper eye protection at any time. The indirect method of a pinhole projector is a safe and effective way to enjoy the solar eclipse.**

# Watching Your Savings Grow: The Eclipse Projector Story

## Materials Needed:

- The pinhole projector you've made.
- A "Savings Growth Chart" - A simple chart or graph that you can draw or print out, showing a rising curve (like the growth of an investment over time).
- Stickers or markers.

## Steps:

### 1. Introduction:

- Start by revisiting the pinhole projector and how it projects the image of the sun onto a screen, allowing us to safely watch the eclipse's progress. Relate this to watching savings grow over time through smart choices and patience.

### 2. Savings Growth Chart:

- Show the "Savings Growth Chart" and explain that this chart represents how money can grow over time when saved or invested wisely, similar to how the projection shows the eclipse growing.
- Mark the starting point on the chart as the "Beginning of the Eclipse" and the highest point as the "Total Eclipse."

### 3. Daily Savings Growth:

- For each day leading up to the eclipse, use a sticker or marker to add a point on the Savings Growth Chart, showing how savings could grow a little each day. Discuss how, in real life, saving a little money regularly can add up and grow, especially with interest.

### 4. Eclipse Day:

- On the day of the eclipse, relate the "Total Eclipse" moment on the chart to reaching a savings goal. It's a special event that took time and patience, much like saving money for something important.

### 5. Reflect on the Lessons Learned:

- After watching the eclipse, talk about what it felt like to wait for something extraordinary and how this relates to saving money. Discuss how being patient, making regular contributions (even small ones), and watching your savings grow can lead to achieving big goals.

Conclusion:

The "Watching Your Savings Grow: The Eclipse Projector Story" activity ties together the wonder of a solar eclipse with the foundational financial concept of investment and growth. It's a practical and memorable way to help kids understand the value of saving and patience, using the engaging and visual metaphor of the eclipse.

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