

MAKE YOUR OWN SUN TRACK MODEL

Let's make a model simulating the sunset and sunrise at different times throughout the year.

Materials

- 2 sturdy 10" paper plates
- 5 long 12" pipe cleaners
- Sharp scissors
- Protractor
- Bead (with opening that will fit pipe cleaner)
- Adhesive tape, maybe glue
- Satellite image of your town (e.g. from Google Earth)
- Pen

1. Take one of the plates, turn it over, and mark 'Ākau, Hema, Komohana, Hikina directions on the edges.

2. With your protractor, measure 30 degrees above and below Hikina and Komohana and mark these with a pen.

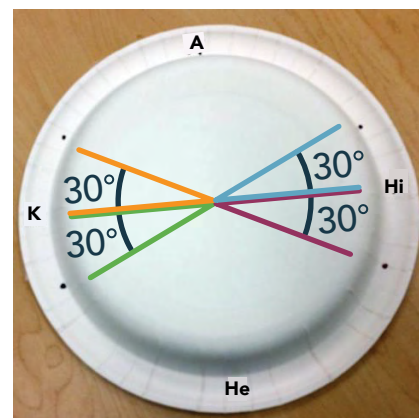
3. Punch holes large enough for the pipe cleaners to fit through at Hikina and Komohana plus the marks you made 30 degrees above and below (6 holes).

4. Prepare your pipe cleaners:

- Take two 12" pipe cleaners and cut 2½" off each of them. Tightly twist the top ½" of each together to form one long 18" pipe cleaner. You might use a little drop of glue to hold them together.
- Take two 12" pipe cleaners and cut 4½" off each one. Tightly twist the top ½" of each together to form one long 15" pipe cleaner.
- Leave the last pipe cleaner at 12"



5. Take the short, 12" pipe cleaner and bend ½" of each end at a right angle, like this:



Thread each end through the **lower holes on both the Hikina and Komohana** sides of your plate. On the opposite side of the paper plate (side without your markings), tape down **ONLY** the pipe cleaner end on the **Komohana** side. Leave the end on the **Hikina** side loose. On the side with your markings, bend the pipe cleaner slightly down towards the **Hema** end of the plate.



- 6.** Take your 15" pipe cleaner, bend down its ends, and thread it through the holes at the **Hikina and Komohana** markings of your plate. On the opposite side of the plate, tape **ONLY** the pipe cleaner end on the **Komohana** side. Bend the pipe cleaner towards **Hema**.

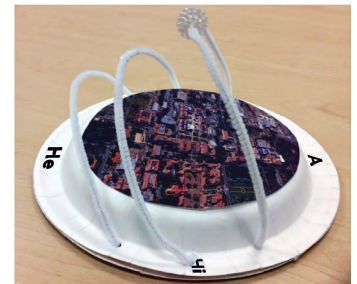
- 7.** With your 18" pipe cleaner, do the same in the holes 30 degrees north of your **Hikina and Komohana** holes. You should now have 3 sun tracks, all bent towards **Hema**.



- 8.** Insert your second plate into the first, for stability, and tape the 2 plates together around the edges, taking care that you can still pull out the pipe cleaner ends from the **Komohana** side.



- 9.** Tape or glue your satellite image to the top surface of your plate. Thread your "sun" bead onto one of the pipe cleaners to show the sun rising and setting at either the equinox (Hikina-Komohana) or the summer or winter solstice.



Be sure to check out other resources at: <https://www.ksbe.edu/digital/holomoana/>

SHOW US WHAT YOU DID!



Send us a photo or video of your sun track model for a chance to be featured on the Holomoana website!

Email it to ittraining@ksbe.edu.