
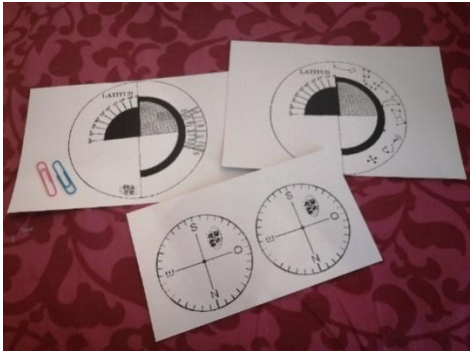

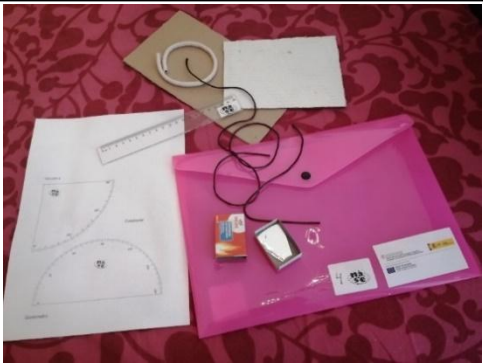





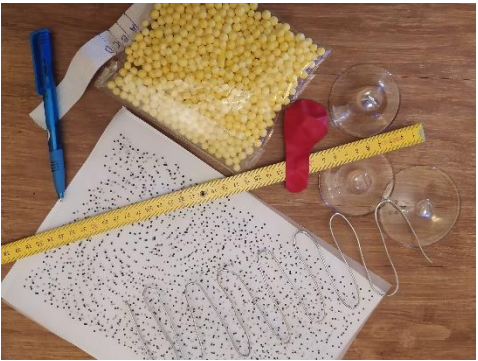




## NASE FULL COURSE


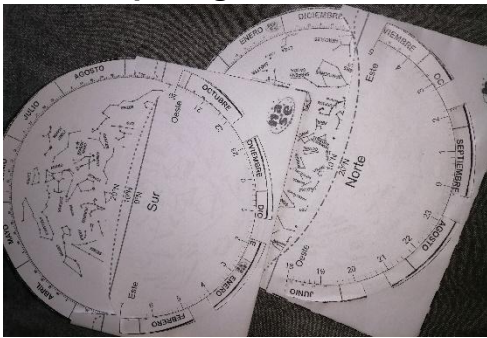
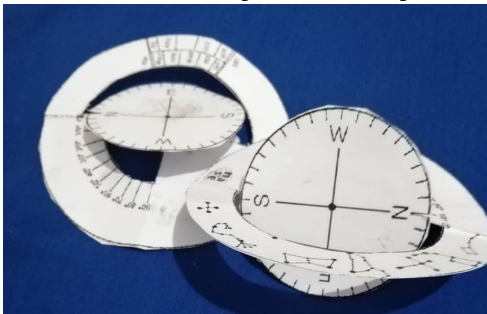
## LAT 30-70 N

Workshop	Materials	
WS1	Print the Workshop 1 scissors, glue, a piece of cardboard (DIN A4) Act. 2: a compass or a Compass app on the mobile phone 1 terrestrial sphere, 1 Blue Tack (pressure-sensitive adhesive), 1 small doll, 1 pen or a pencil, 1 cup or a glass not very tall, 30 toothpicks Act. 4: 1 stick of 15 cm long (a skewer) paper with fig.	<b>WS1 Local Horizon and Sundials</b> 
WS2	Print the Workshop 2 scissors glue a piece of cardboard (DIN A4) Act. 1, 2 and 3: 1 small doll 2 clips 1 stick of 15 cm long (a skewer)	<b>WS2 Stellar, solar and lunar dem-</b> 
WS3	scissors, glue, a piece of cardboard (DIN A4) Act. 5 and 6: 1 normal needle, 1 needle with a 2mm head, 1 ruler of 30 cm., 1 mobile phone, 1 stick 28 cm (a skewer) Act. 9: 1 cardboard (DIN A3) which can be bent to make a tube 2 elastic bands, 1 piece of aluminum foil (used in the kitchen), 1 white plastic bag,	<b>WS3 Earth-moon-sun system</b> 
WS4	Print the Workshop 4 a pair of scissors, glue, a cardboard box scotch tape 1 folder type bag 25 cm of big string Act. 1: a rope 1 m long, 1 ruler about 20 cm. Act. 7: 1 matchbox, 1/8 part of an old CD, 1 black pen	<b>WS4 Young astronomer briefcase</b>

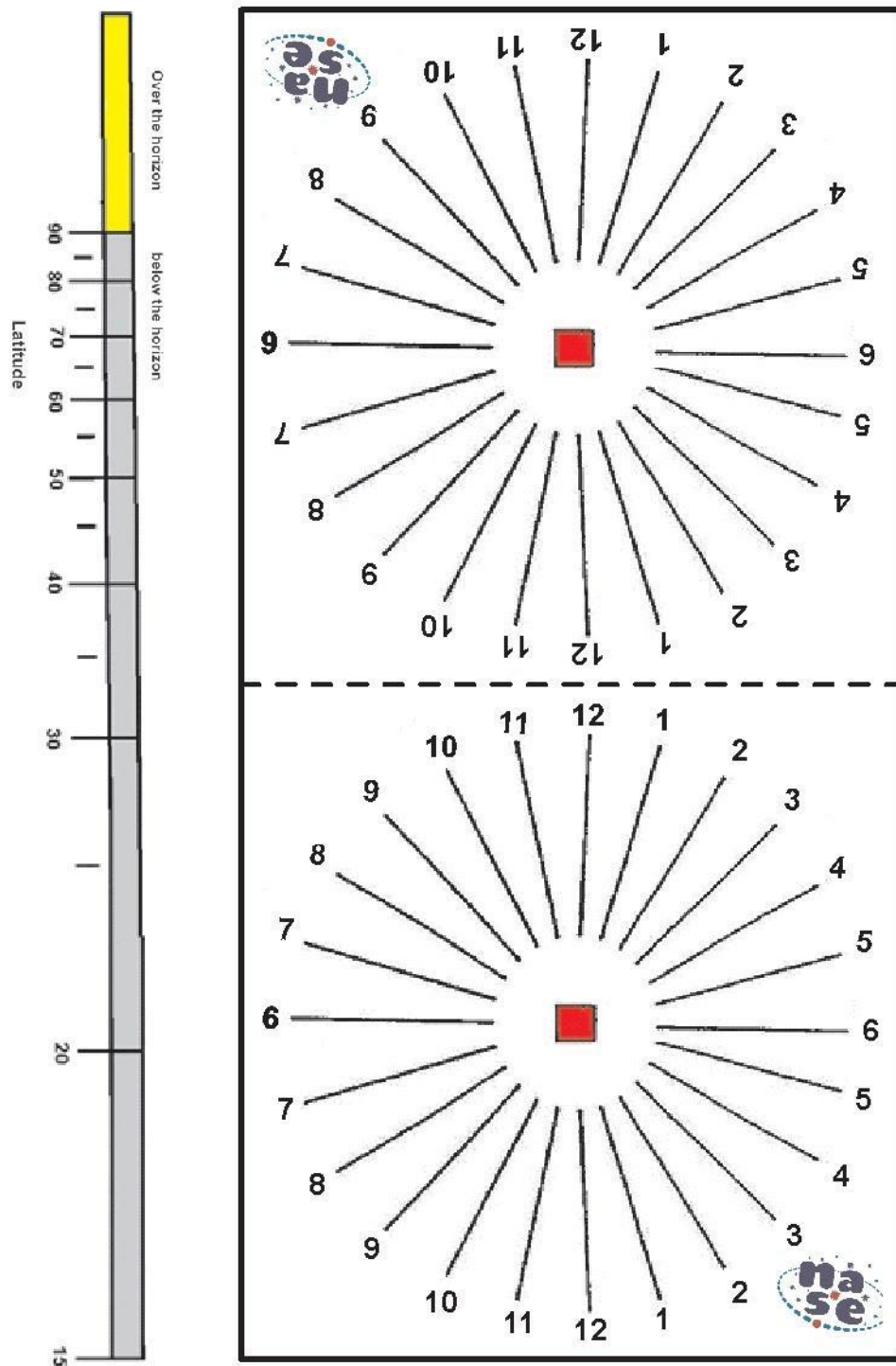
		
WS5	<p>Print the Workshop 5</p> <p>scissors, glue</p> <p>Act. 2: 1 ruler, scotch tape, 1 CD transparent box, 1 pair of polarised sun glasses</p> <p>Act. 4: Protactor</p> <p>Act. 6: 1 candle and 1 flashlight or mobile flashlight</p> <p>Act. 8: 1 silicone stick and 1 mobile</p>	<p><b>WS5 Solar spectrum &amp; sundials</b></p> 
WS6	<p>scissors</p> <p>Act. 2: 1 ruler</p> <p>Act. 3: a black cardboard (DIN A4), 3 pieces of cellophane or transparent plastic foil coloured in red, blue and green, 3 flashlights or 3 mobile flashlights</p> <p>Act. 5: 1 basketball, 1 tennis ball</p> <p>Act. 6: 1 torch, 1 meter string</p>	<p><b>WS6 Stellar lives</b></p> 
WS7	<p>Print the Workshop7</p> <p>scissors, glue,</p> <p>Act. 1: 1/10 part of CD or DVD, 1 roll of transparent tape, 1 flourescent bulb, 1 filament or LED lamp, 1 lamp holder</p> <p>Act. 2: 1 candle, 1 tablesponn of common salt, some water.</p> <p>Act. 5: 1 remote control</p> <p>Act. 6: 1 piece of fabric, 1 flashlight with filament bulb (not with LED)</p> <p>Act. 10: identity card, passport, bills.</p>	<p><b>WS7 Astronomy beyond visible</b></p> 

WS8	<p>Print the Workshop 8 one on white paper and the other on transparent paper glue Act. 2: a semi-rigid cable of the type used in domestic wiring about 1 m long Act. 3: an elastic bend about 30 cm long and 1 ruler Act. 4: 2-3 balloons and polystyrene small balls or small pieces or paper confetti Act.6: Use the photocopies Act. 8: The broken basis of a cup of glass</p>	<b>WS8 Expansion of the Universe</b> 
WS9	<p>scissors, glue, Act. 1:1 toilet paper, 1 pen, 1 din4 paper, Act. 8: 1 brochette stick, 1 dina4 cardboard, Act. 9: 1meter string, 1 padlock (or a similar heavy object 2x2cm approx.), 1 plastic cylinder of 10cm (such as the exterior part of a pen), Act. 15: 2 bases of glass, 1 ball or coin of 1cm diameter.</p>	<b>WS9 Planets and exoplanets</b> 
WS10	<p>Act. 2: 1 DVD Act. 3: 1 red cardboard dinA4, 1 yellow cardboard dinA4, 1 blue cardboard dinA4, 1 button battery, 1 gold ring, 1 Gallium thermometer, 1 Iron nail, 1 matchbox, 1 piece of electric copper wire, 1 black pencil lead, 1 mobile battery, 1 aluminum pencil sharpener, 1 can of Coca-Cola or similar, 1 helium balloon, 1 iodine solution. Act. 5: 1 DVD Act. 6: ½ glass of hot water close to boiling, 1 syringe of 5 cm3 Act. 7:3 plastic bottles. 3 thermometers, plasticine, dark soil, a spray bottle for water Act. 8: 2 transparent glass jars, 1 dinA4 blue cellophane paper, 1 dinA4 red cellophane paper, 1 hole punch, 2 spinach leaves or any similar vegetable, ½ l water, 200 g bicarbonate of soda, 10ml syringe, 2 spotlights with one LED bulb each 70W. Act. 9: 1 tablespoon yeast, 1 glass of lukewarm water (22-27°C), 1 tablespoon of sugar, 1 large glass or glass jar, 6 zip-top bags, 1 tablespoon of baking soda or ammonia, 1 tablespoon of sodium chloride, 3 tablespoons of vinegar or 1 lemon, 1 pack of ice cubes, 1 UV light bulb.</p>	<b>WS10 Elements of Astrobiology</b> 
WS11	<p>Act. 1: 14 m of cloth tape 12 cm wide, 1 pen, 5 bells, 1 eye, 1 suction cup, 1 piece of nickel sponge, 1 piece of plastic plant, 1 small plastic dinosaur, 1 plastic bunny, 1 toy chick, 1 doll, needle and thread for sewing</p>	<b>WS11 Cosmological Timeline</b>

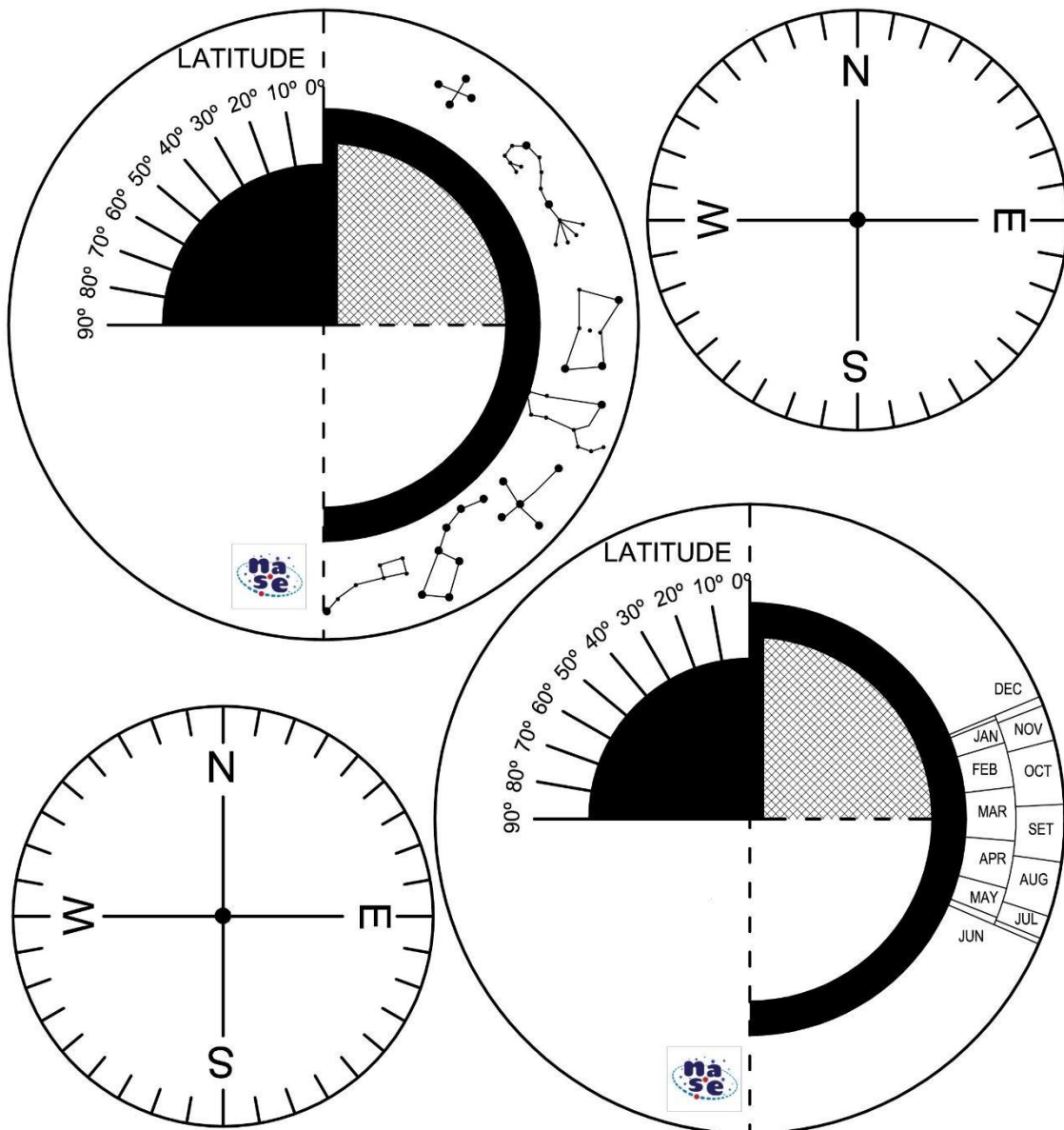


	<p>Act. 2: 1 plate, 1 straw, 1 glass of water, 1 splash of dishwasher.</p> <p>Act. 3: 1 glass, <math>\frac{1}{2}</math> of water, 1 pencil, 1 tablespoon of sodium bicarbonate, fine sand or sodium chloride.</p> <p>Act. 4: 1 glass of chocolate milkshake or fruit juice, 1 tablespoon of agar-agar (it can be replaced by the gelatin obtained after boiling 2 chicken feet in 1 glass of water), 1 transparent plastic cylinder 25-30cm high, 1 liter of sunflower oil (put in a fridge minimum 30 min), 1 10 ml syringe, 1 fine strainer, 1 mobile or cell phone.</p> <p>Act. 5: 1 brush, 1 dinA4 white paper, 1 magnet, 1 mobile, 2 or 3 drops of gel used to disinfect during COVID</p> <p>Act. 6: <math>\frac{1}{2}</math> glass of water, 1 teaspoon of sodium chloride, 3 teaspoons of sodium bicarbonate, 1 squirt of dish soap, 1 tomato, 1 spoon, 1 fork, 1 fine strainer, 3 crystal glasses, 1 filter paper, <math>\frac{1}{2}</math> glass of ethyl alcohol</p>	
WG1	scissors	<p><b>WG1 Preparing Observations.</b></p> 
WG2	<p>It is necessary to use the 2 demonstrators of workshop 2 and the Planisphere of Workshop 4 y Working Group 1</p>	<p><b>WG2 Astronomy in the city</b></p> 

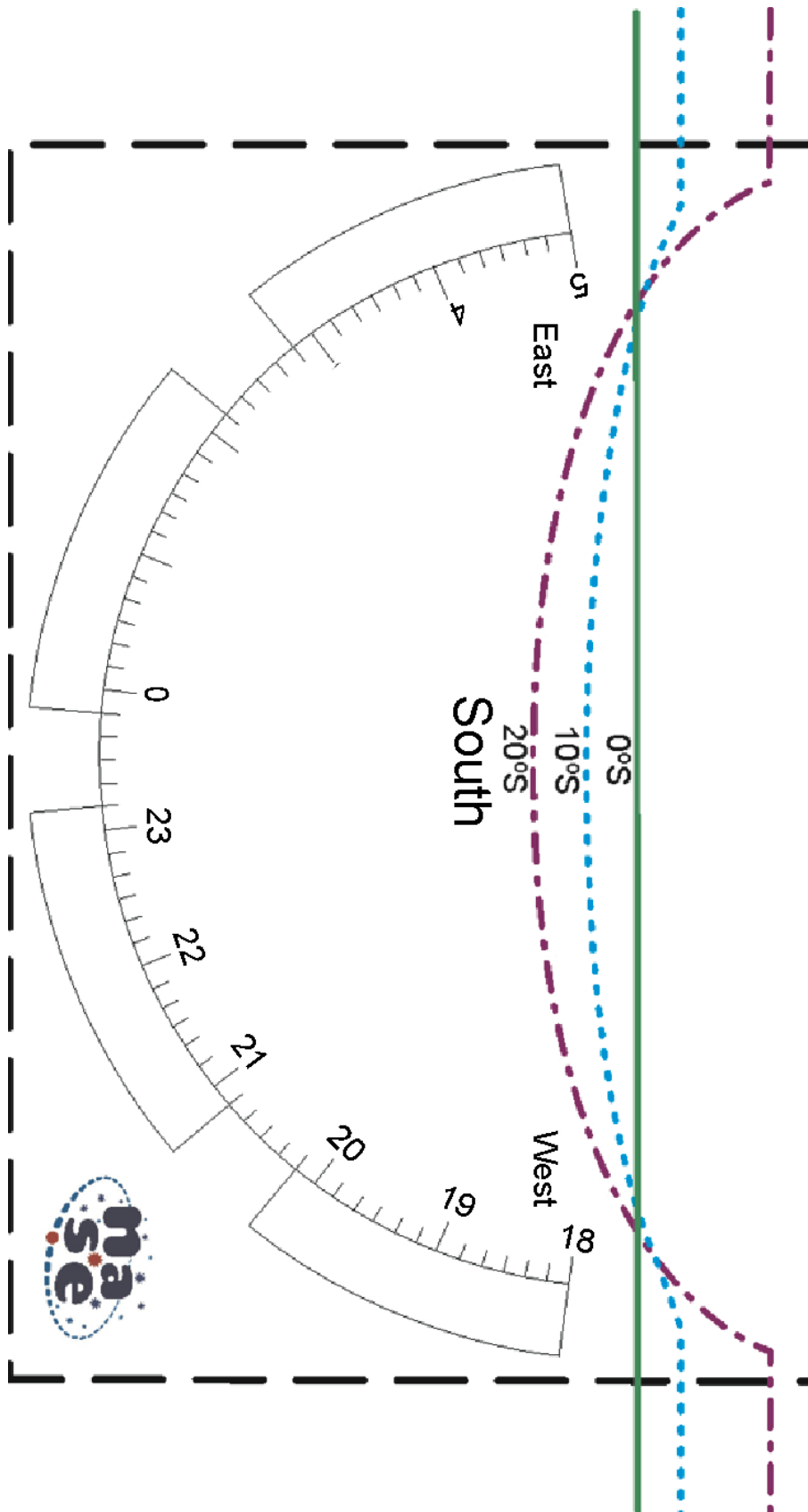
## WORKSHOP 1



## WORKSHOP 2 SUR

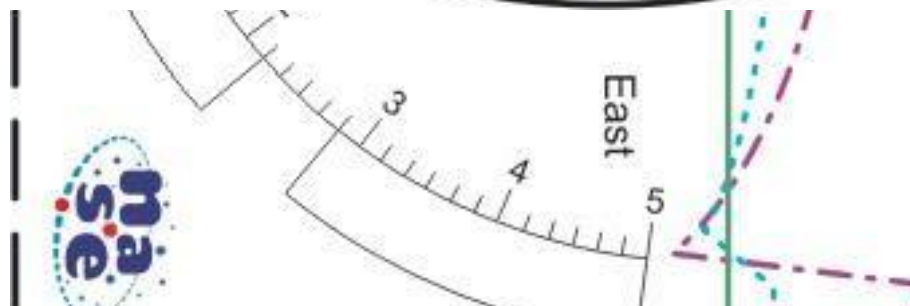
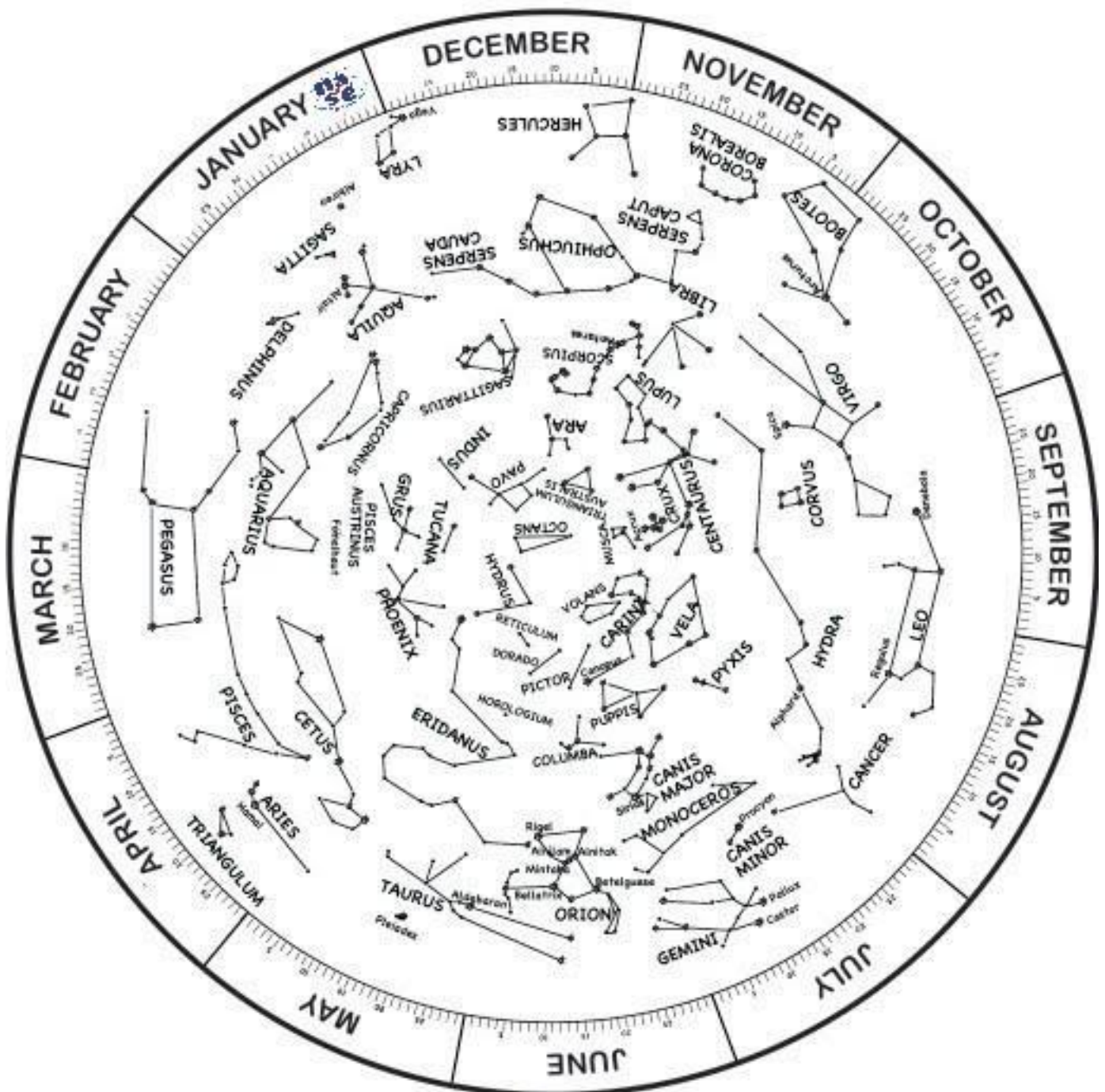


## WORKSHOP 4



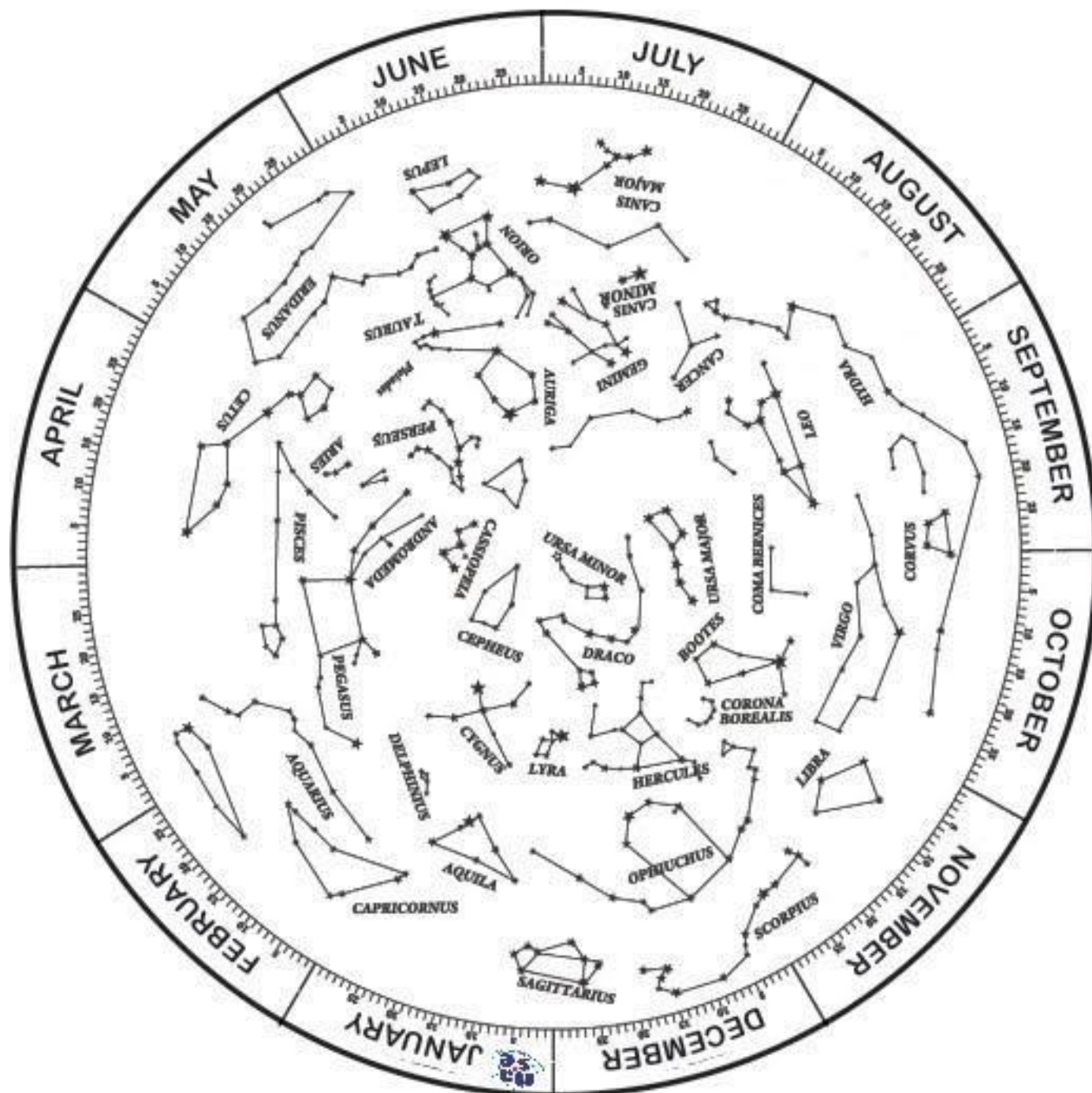
WORKSHOP 4

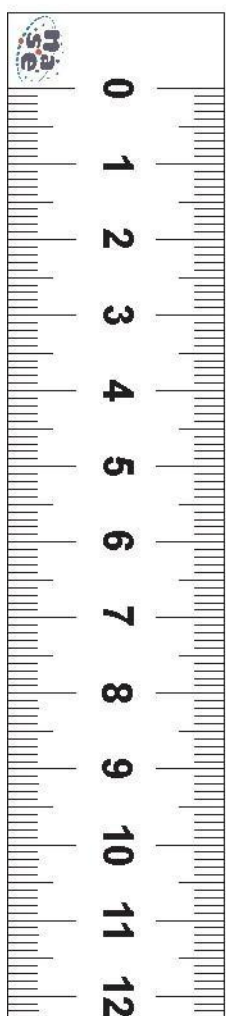
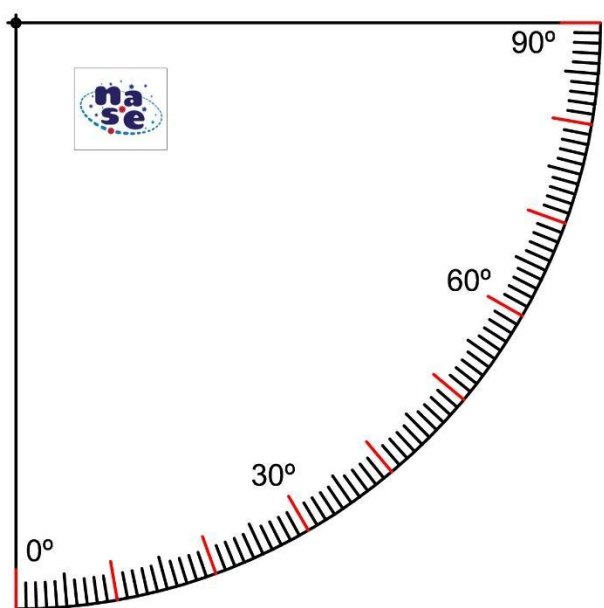
WORKSHOP 4



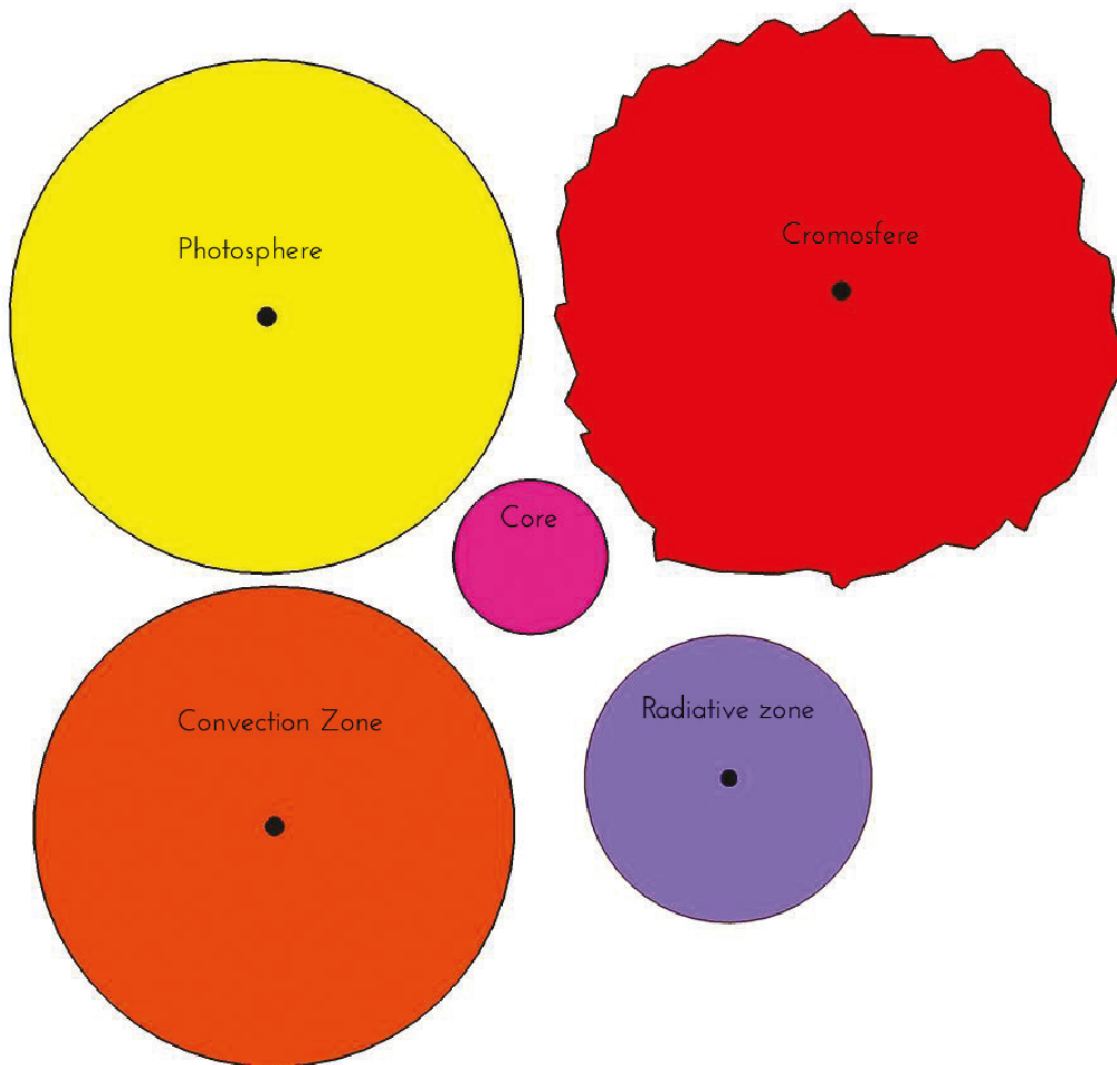


## WORKSHOP 4

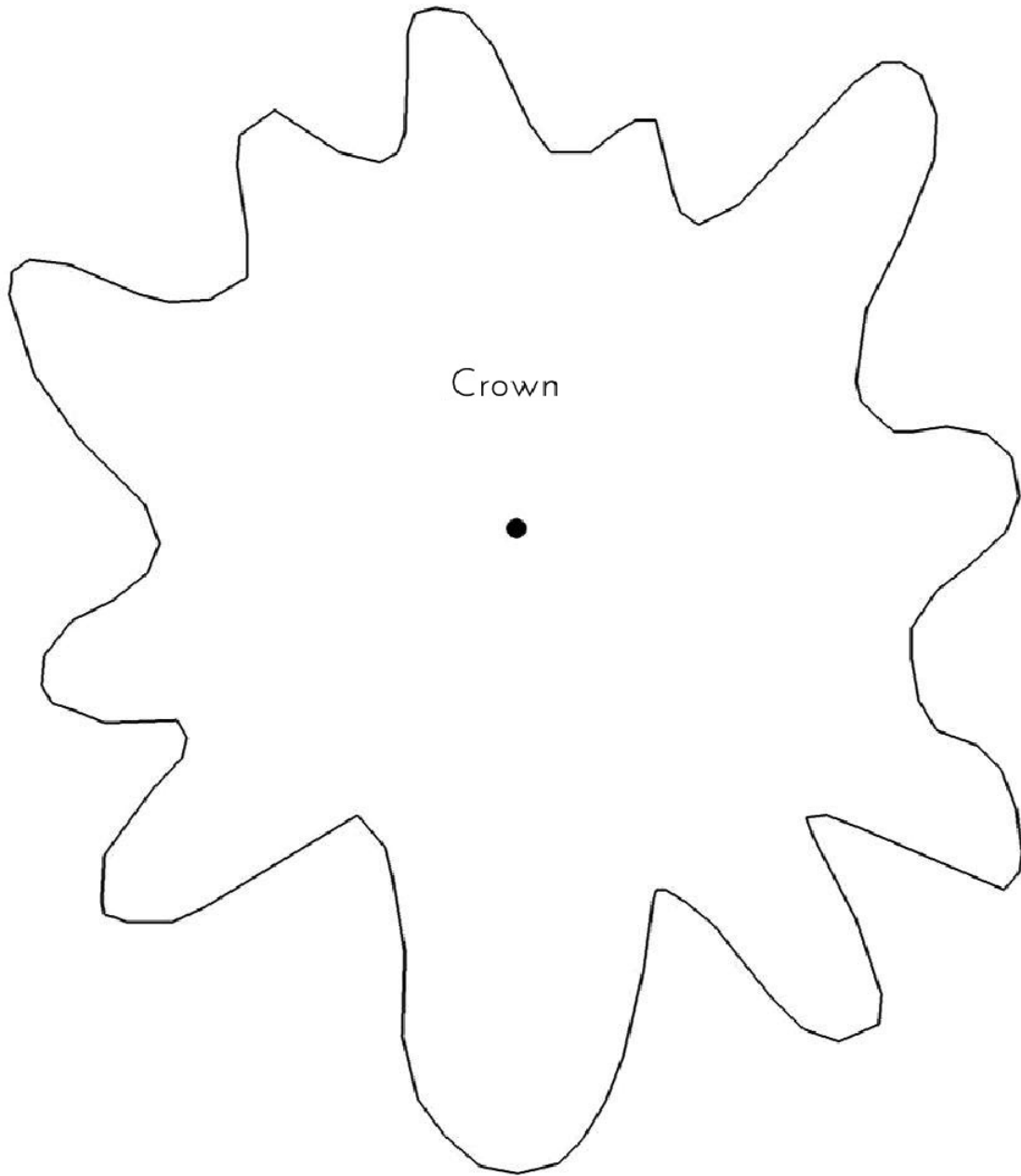




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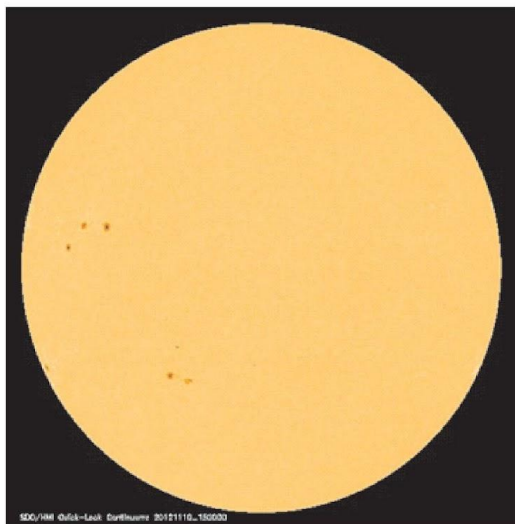


## WORKSHOP 5





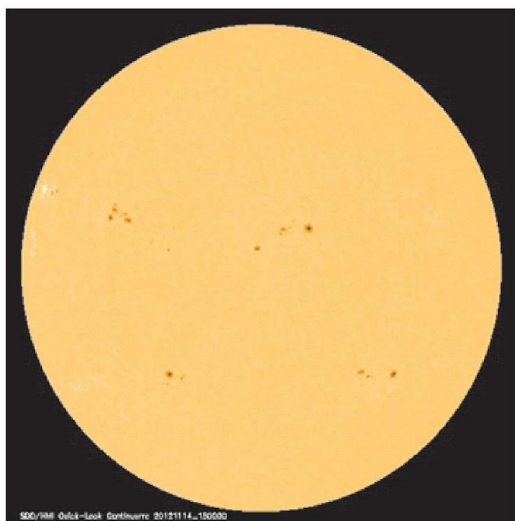
## WORKSHOP 5



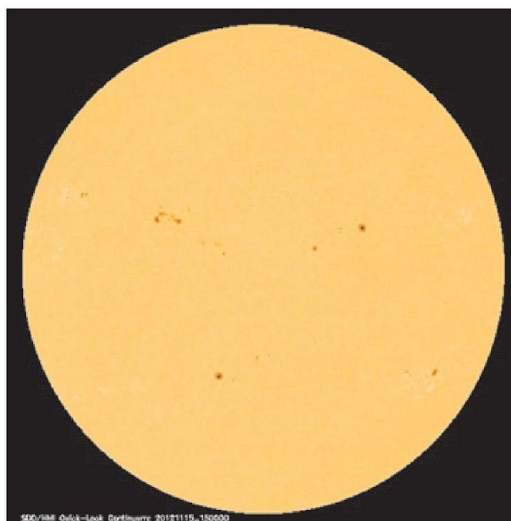
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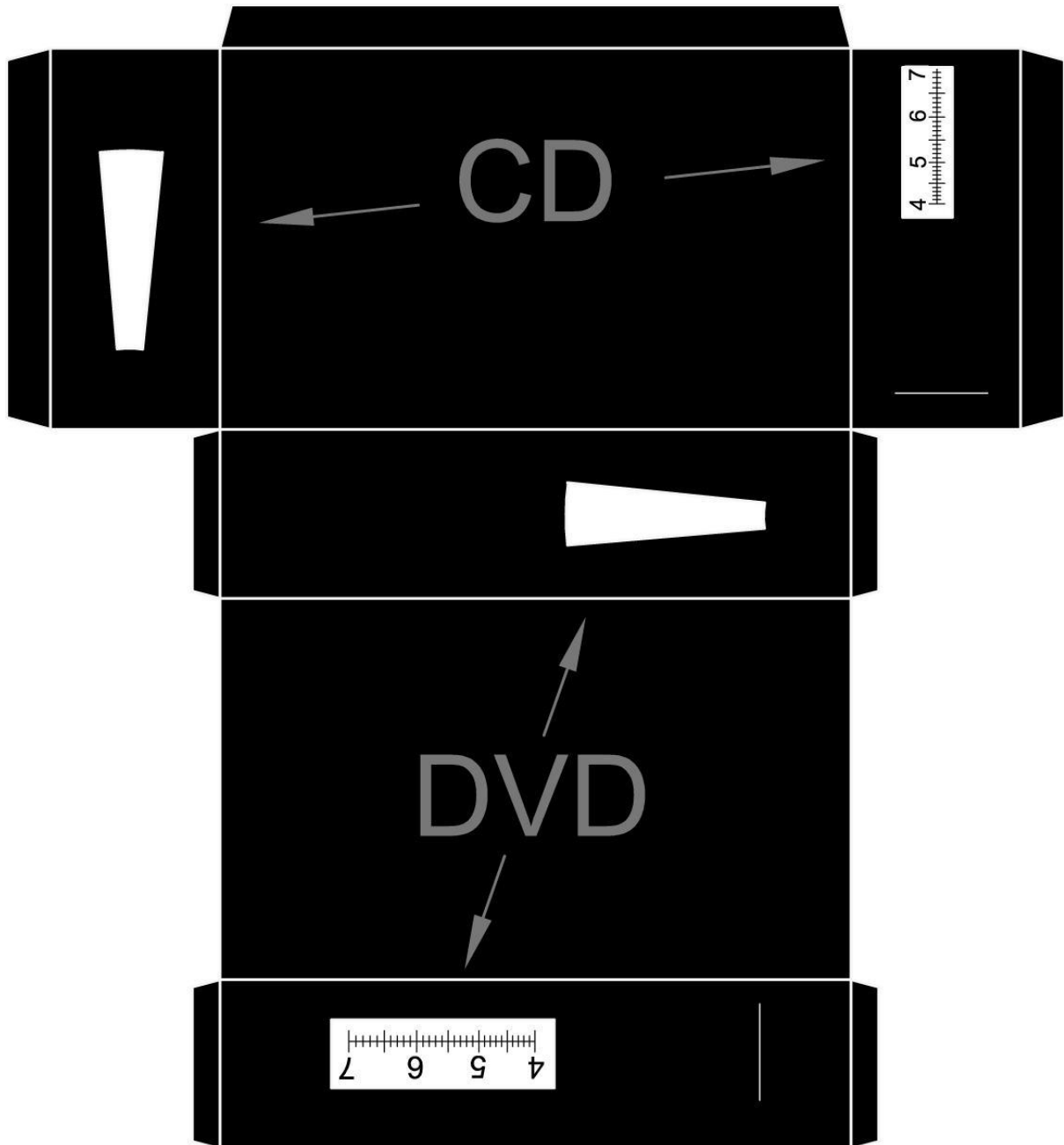


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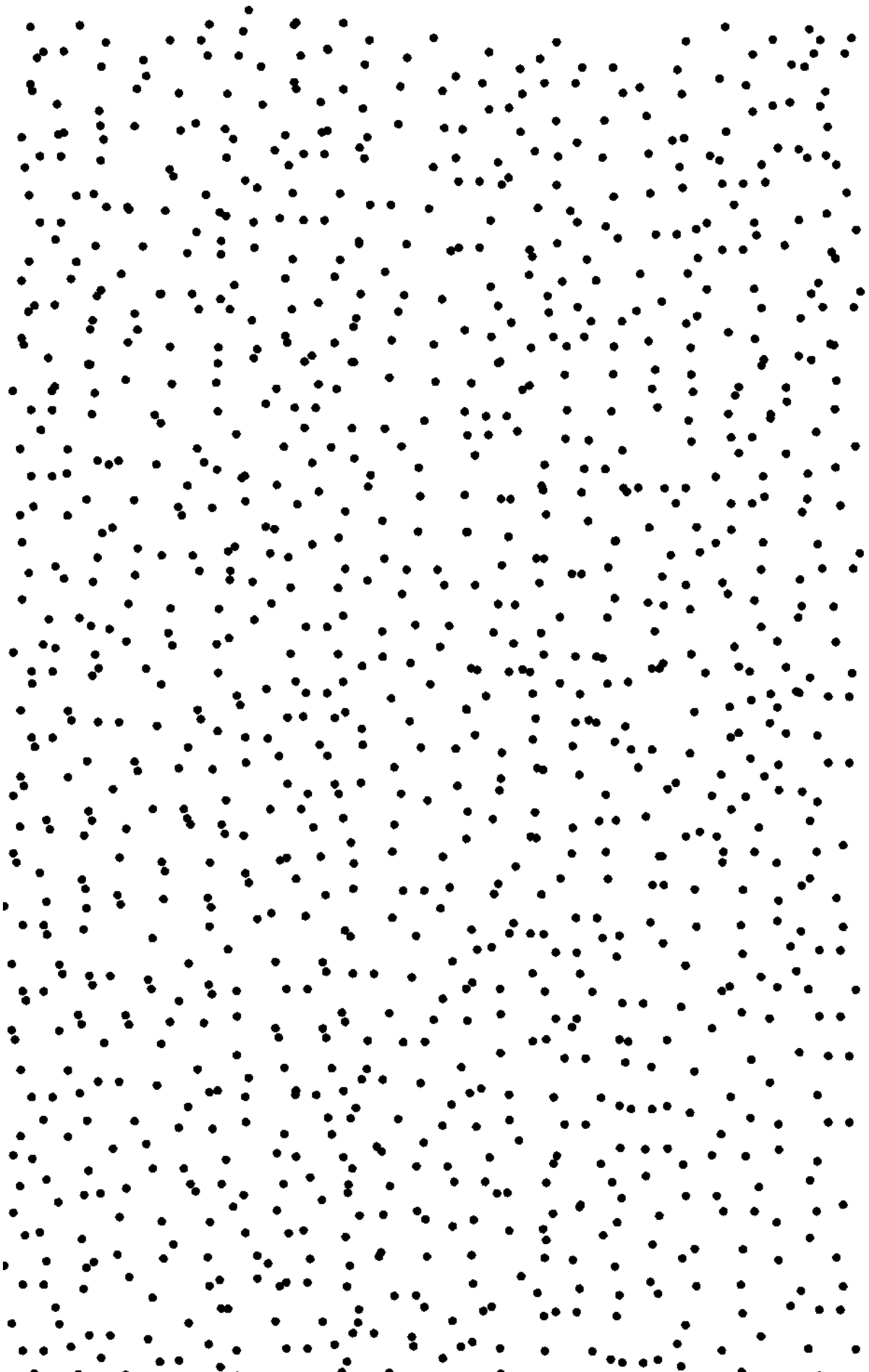
WORKSHOP 6



## WORKSHOP 7



## WORKSHOP 8





## WORKSHOP 8

