
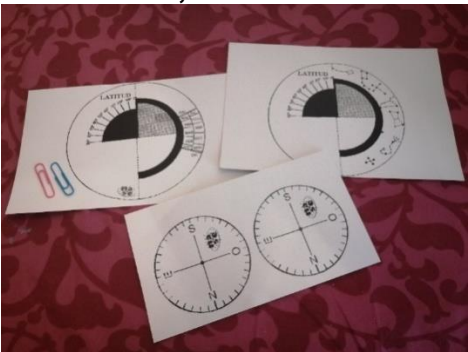

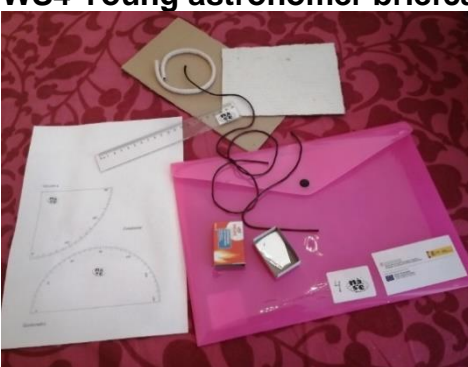
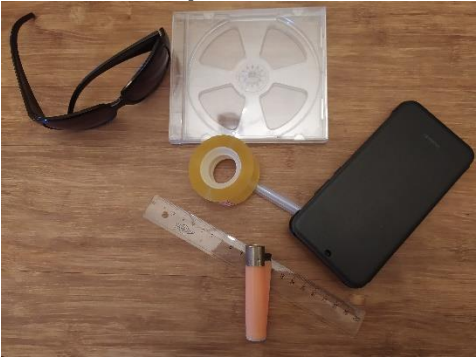










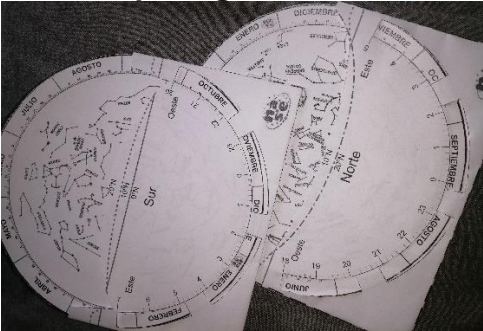

NASE FULL COURSE

LAT 0-20 S

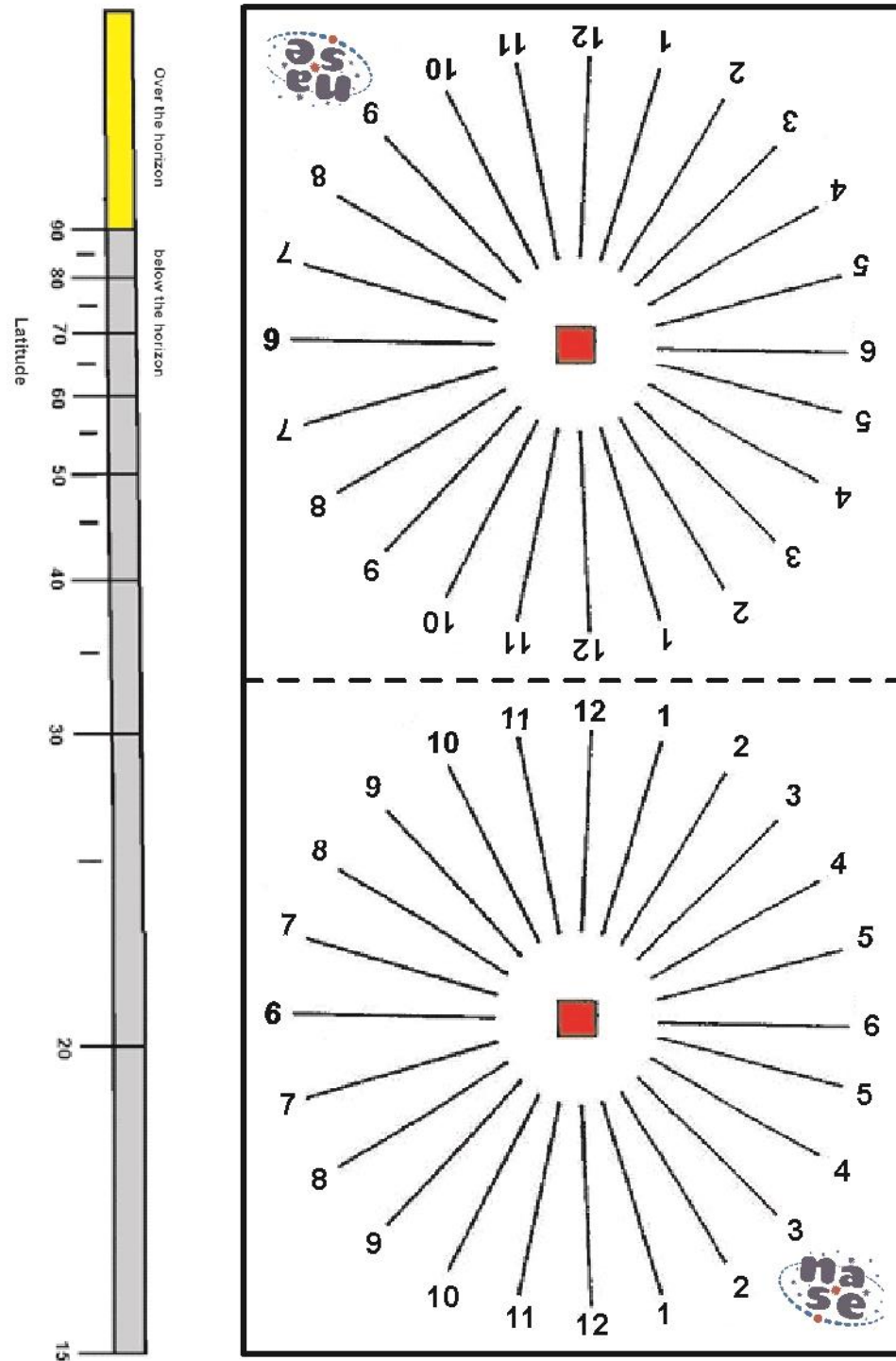
Workshop	Materials	
WS1	Print the Workshop 1 scissors, glue, a piece of cardboard (DIN A4) Act. 2: a compass or a Compass app on the mobile phone 1 terrestrial sphere, 1 Blue Tack (pressure-sensitive adhesive), 1 small doll, 1 pen or a pencil, 1 cup or a glass not very tall, 30 toothpicks Act. 4: 1 stick of 15 cm long (a skewer) paper with fig.	WS1 Local Horizon and Sundials 
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)	WS2 Stellar, solar and lunar dem- 
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,	WS3 Earth-moon-sun system 
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	WS4 Young astronomer briefcase 

WS5	<p>Print the Workshop 5 scissors, glue Act. 2: 1 ruler, scotch tape, 1 CD transparent box, 1 pair of polarised sun glasses Act. 4: Protactor Act. 6: 1 candle and 1 flashlight or mobile flashlight Act. 8: 1 silicone stick and 1 mobile</p>	<p>WS5 Solar spectrum & sundials</p> 
WS6	<p>scissors Act. 2: 1 ruler 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 Act. 5: 1 basketball, 1 tennis ball Act. 6: 1 torch, 1 meter string</p>	<p>WS6 Stellar lives</p> 
WS7	<p>Print the Workshop7 scissors, glue, 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 Act. 2: 1 candle, 1 tablesponn of common salt, some water. Act. 5: 1 remote control Act. 6: 1 piece of fabric, 1 flashlight with filament bulb (not with LED) Act. 10: identity card, passport, bills.</p>	<p>WS7 Astronomy beyond visible</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>	<p>WS8 Expansion of the Universe</p> 

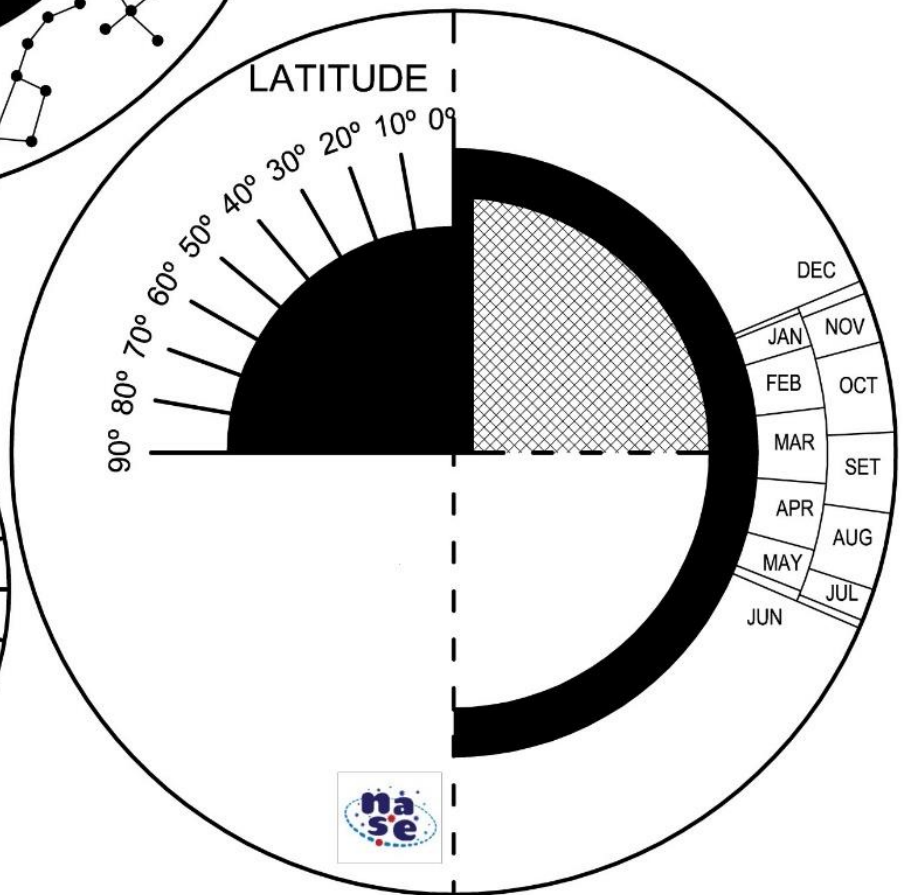
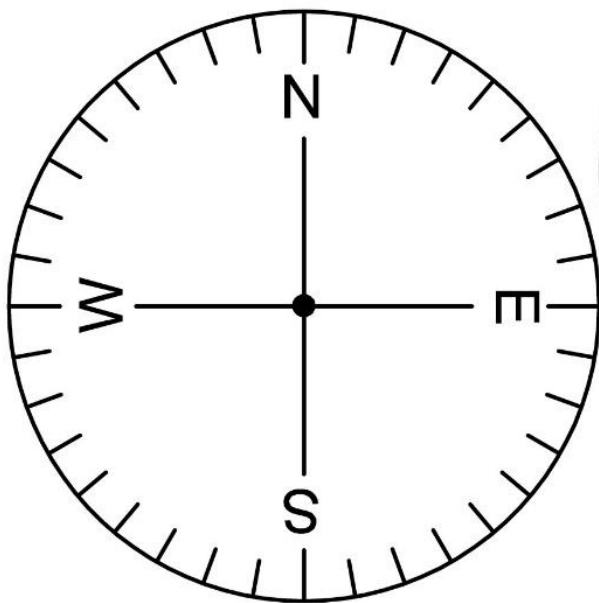
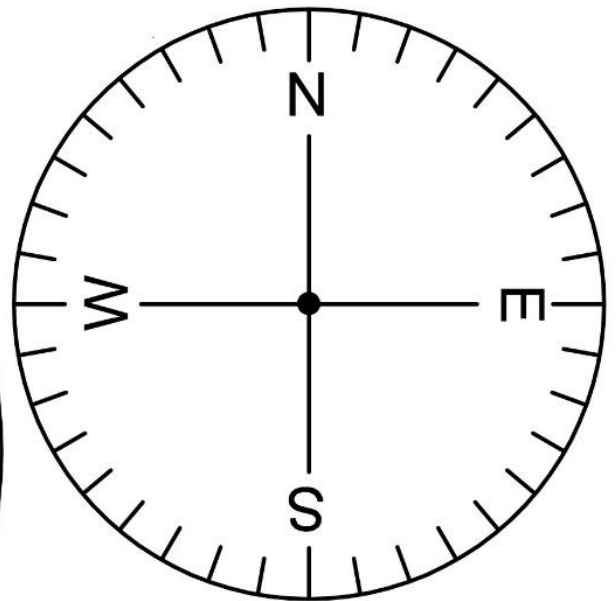
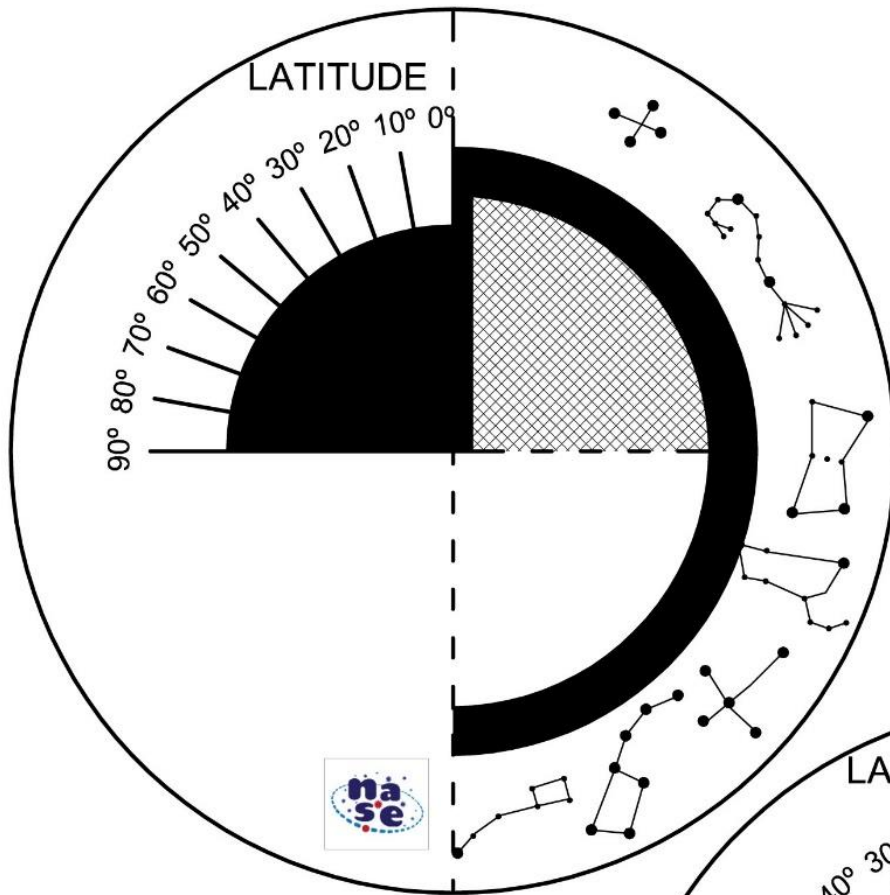
WS9	<p>scissors, glue, Act. 1: 1 toilet paper, 1 pen, 1 din4 paper, Act. 8: 1 brochette stick, 1 dina4 cardboard, Act. 9: 1 meter string, 1 padlock (or a similar heavy object 2x2cm approx.), 1 plastic cylinder of 10cm (such as the exterior part of a pen), Act. 15: 2 bases of glass, 1 ball or coin of 1cm diameter.</p>	WS9 Planets and exoplanets 
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>	WS10 Elements of Astrobiology 
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 Act. 2: 1 plate, 1 straw, 1 glass of water, 1 splash of dishwasher. Act. 3: 1 glass, ½ of water, 1 pencil, 1 tablespoon of sodium bicarbonate, fine sand or sodium chloride. 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. Act. 5: 1 brush, 1 dinA4 white paper, 1 magnet, 1 mobile, 2 or 3 drops of gel used to disinfect during COVID Act. 6: ½ 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, ½ glass of ethyl alcohol</p>	WS11 Cosmological Timeline 

WG1	scissors	WG1 Preparing Observations. 
WG2	<p>It is necessary to use the 2 demonstrators of workshop 2 and the Planisphere of Workshop 4 y Working Group 1</p>	WG2 Astronomy in the city 

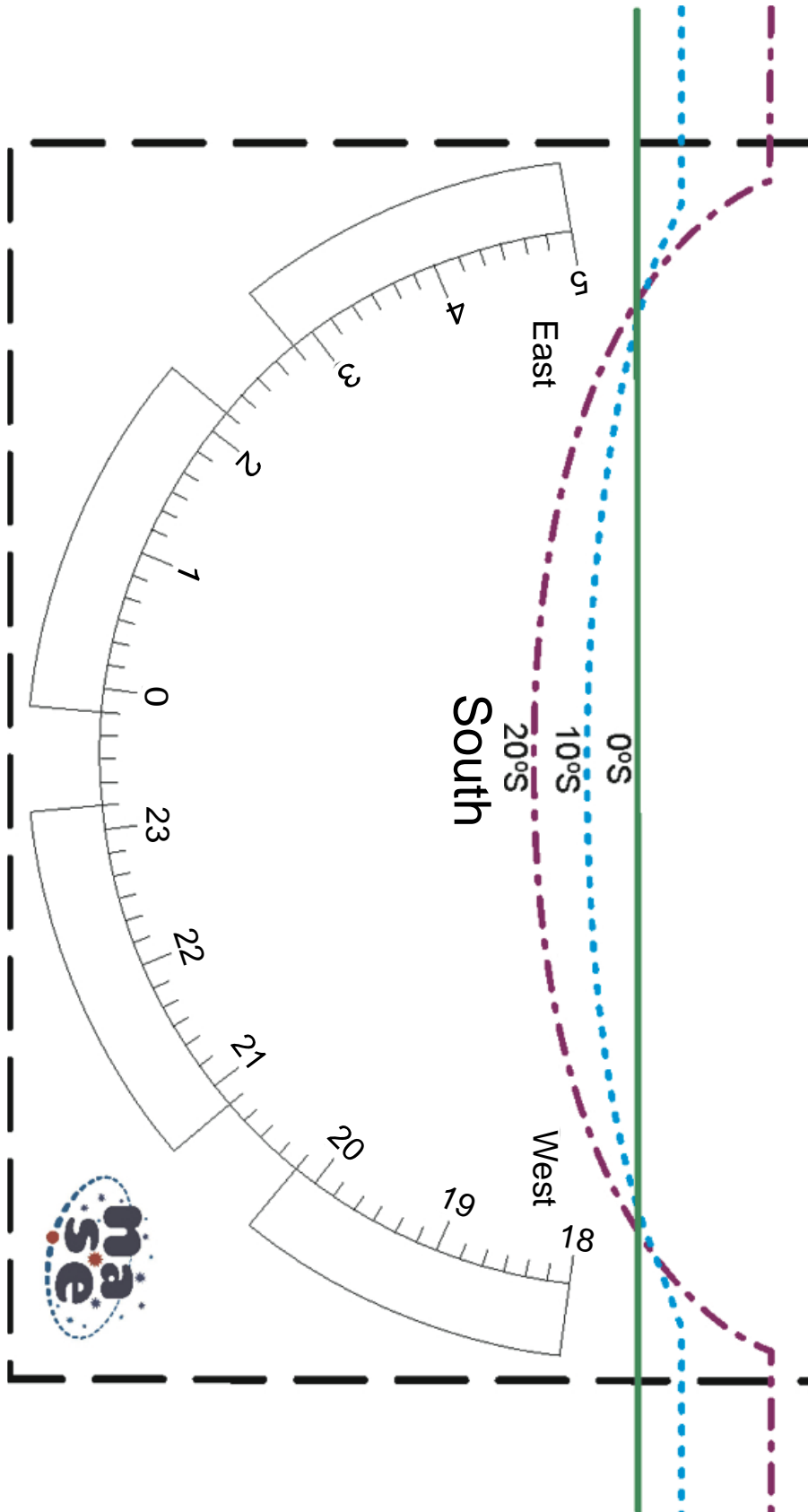
WORKSHOP 1



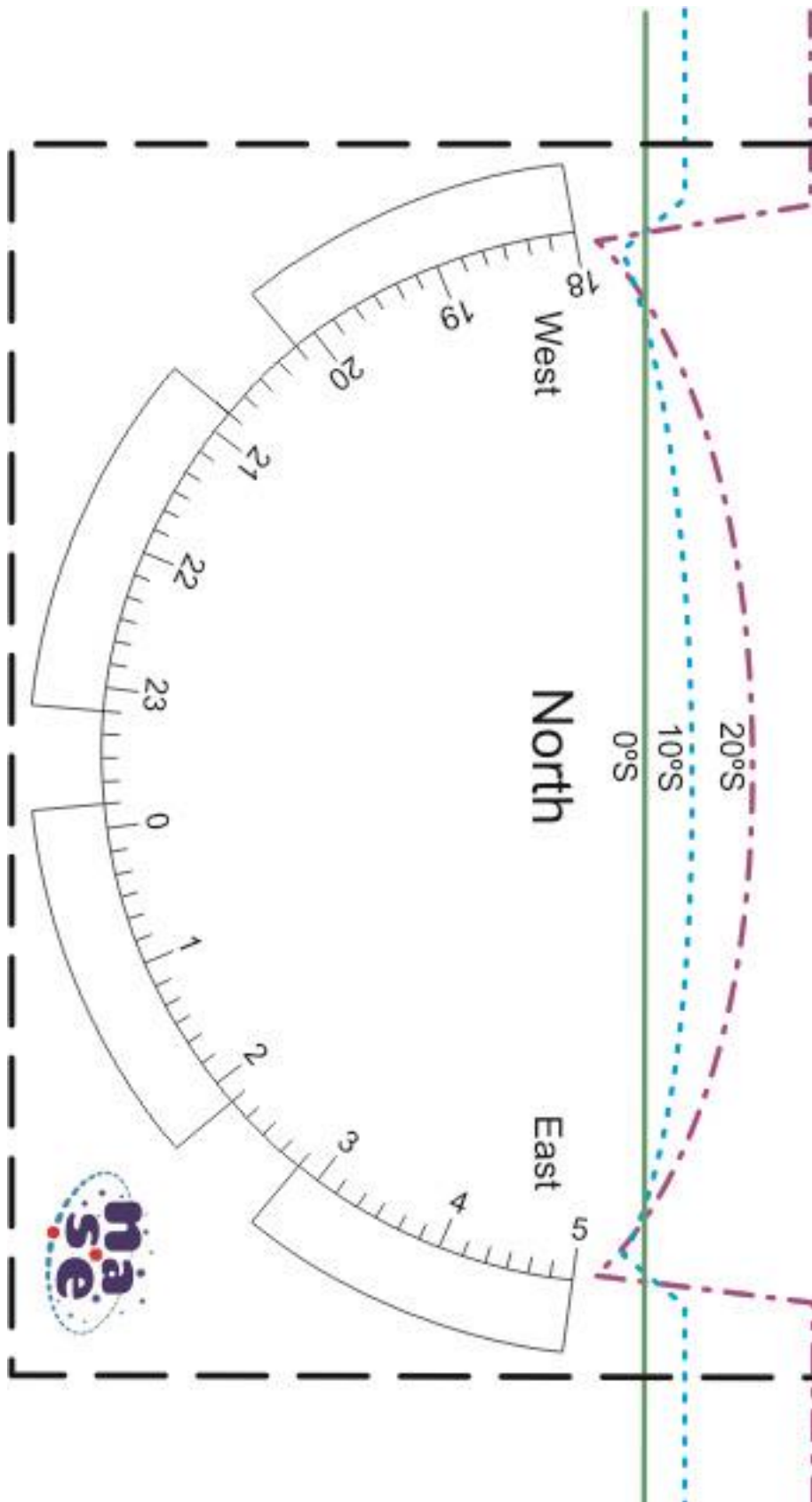
WORKSHOP 2 SOUTH



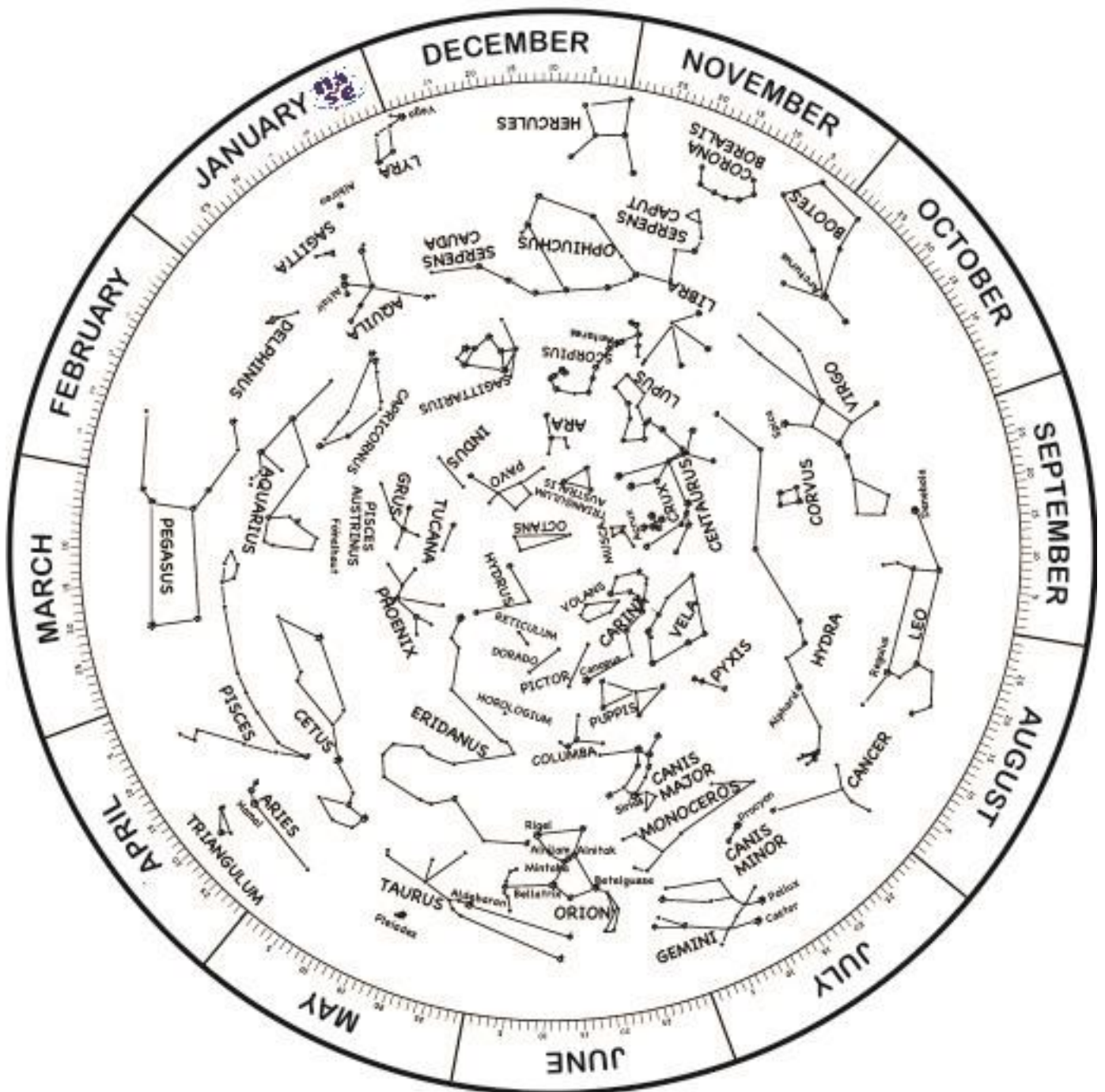
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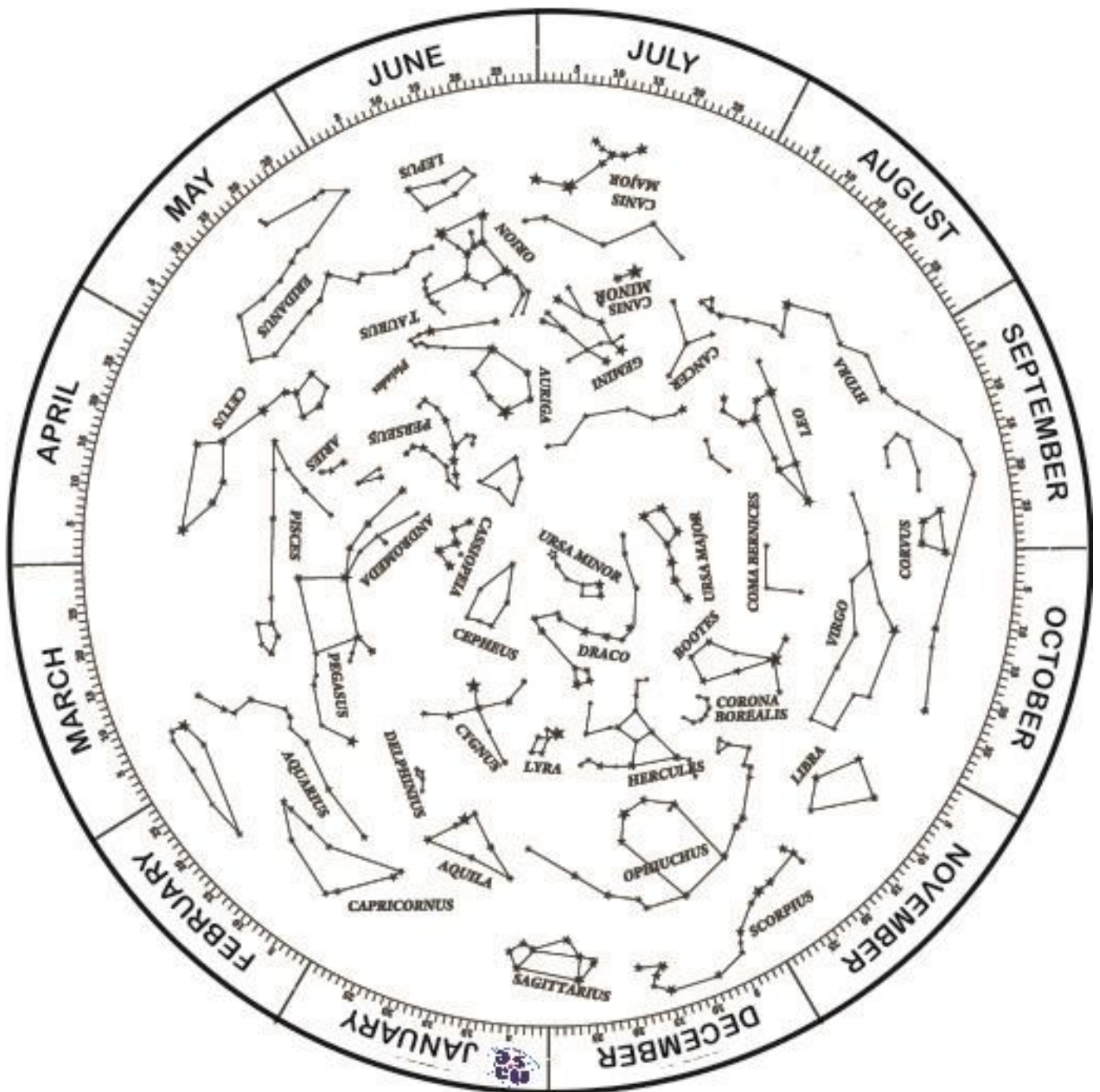
WORKSHOP 4



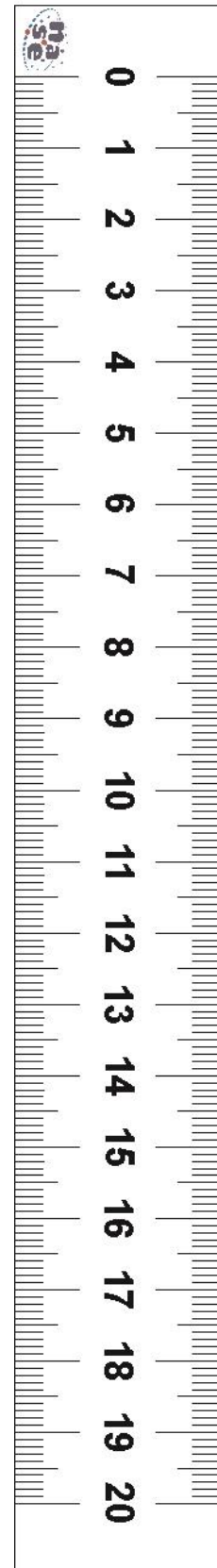
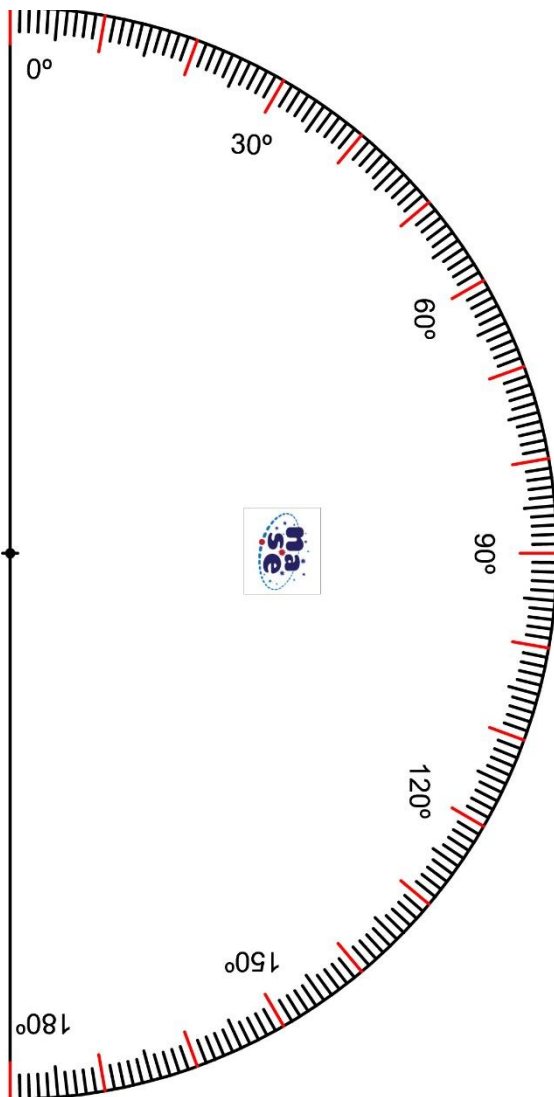
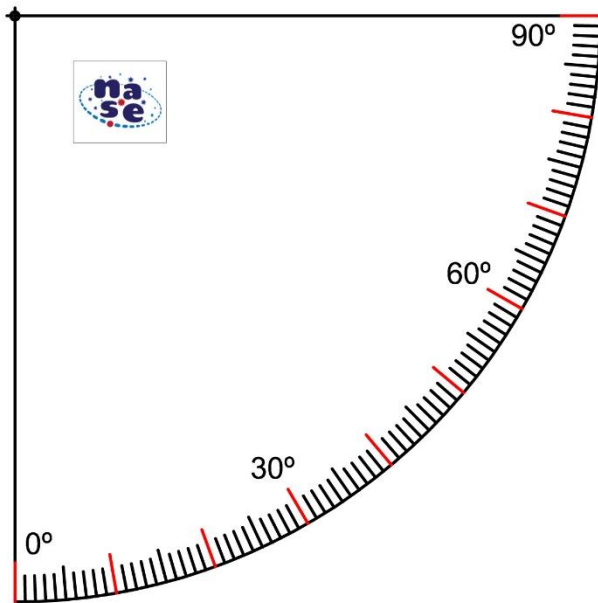
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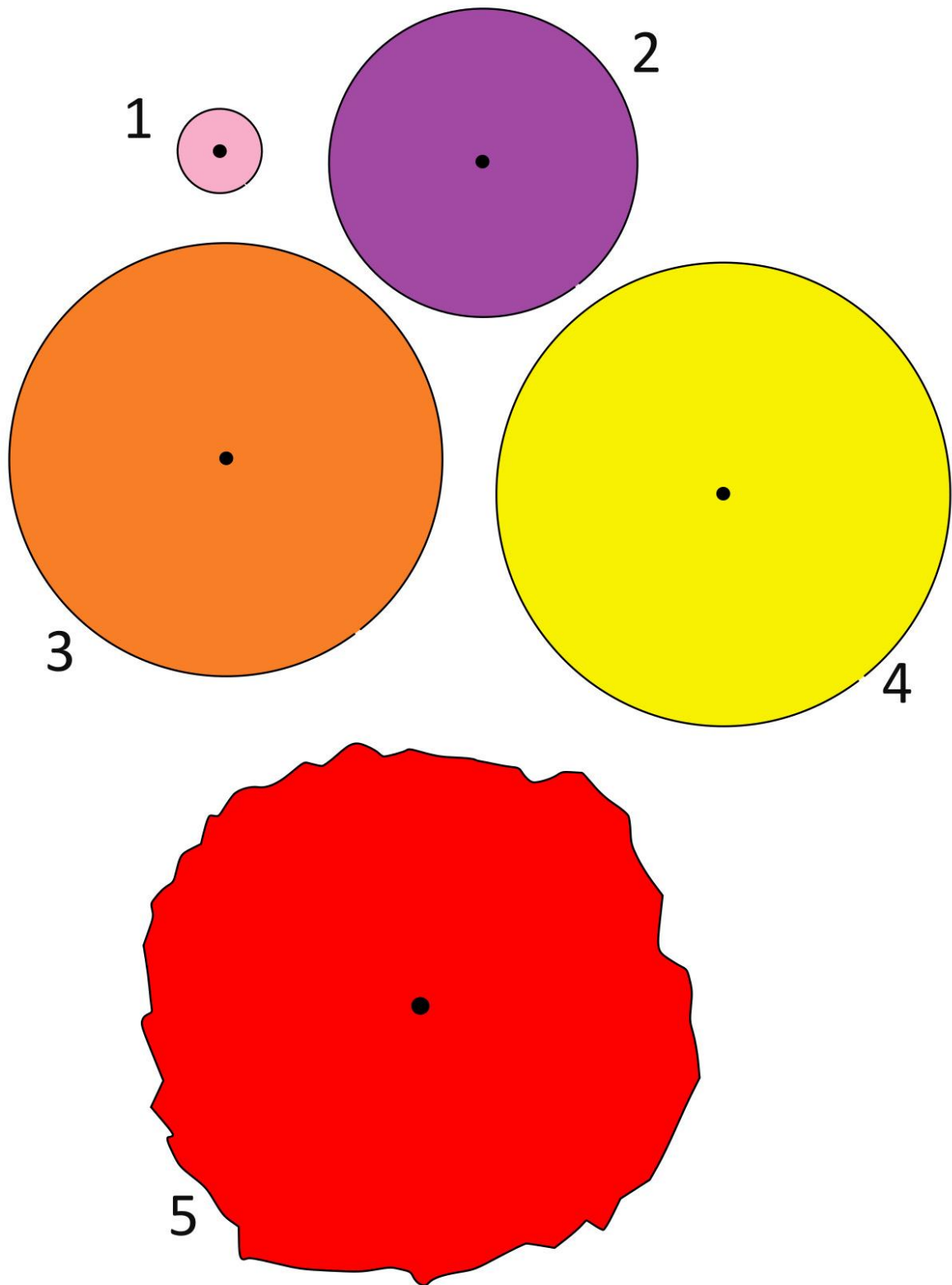
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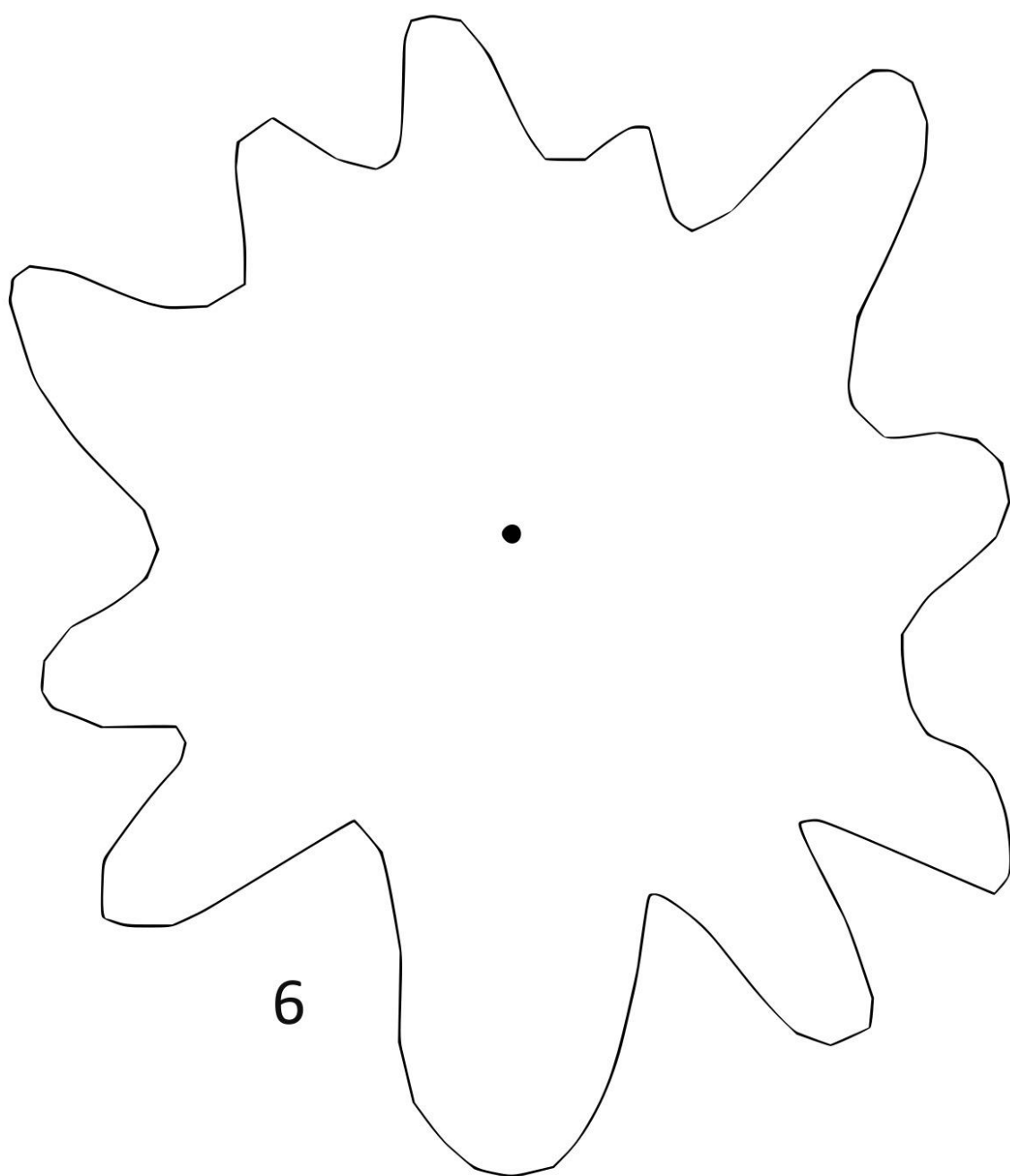
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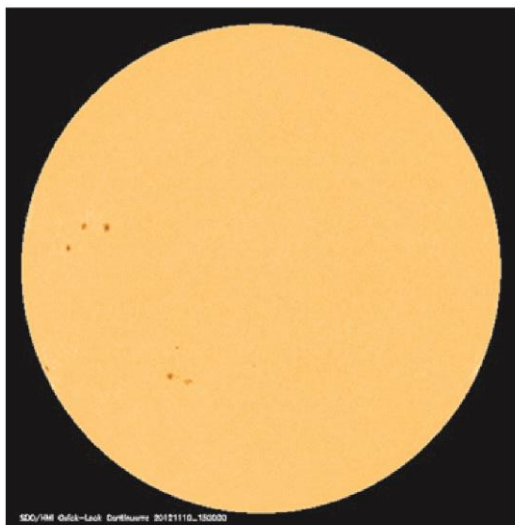
WORKSOP 5



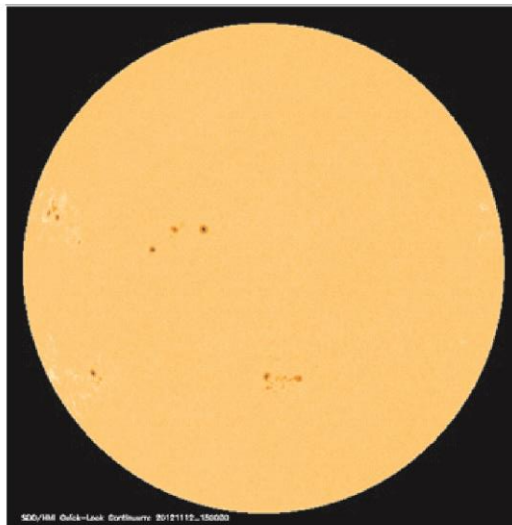
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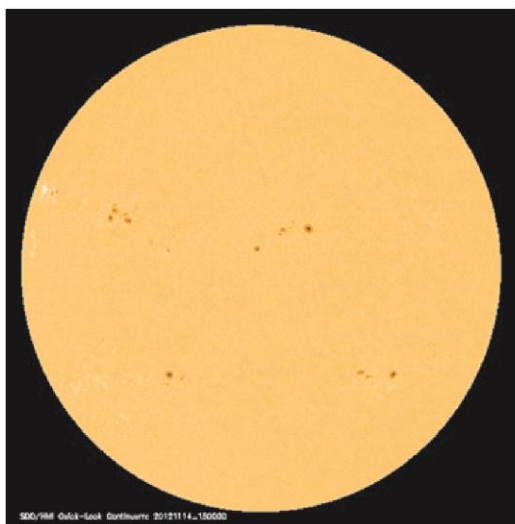
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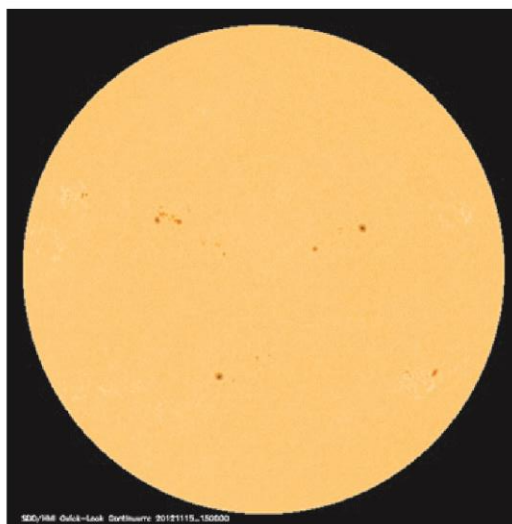
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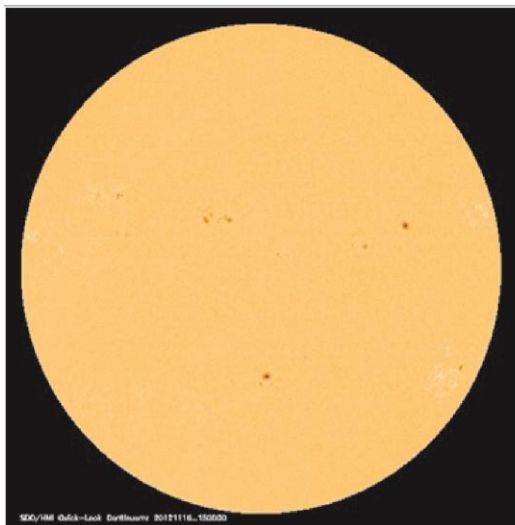
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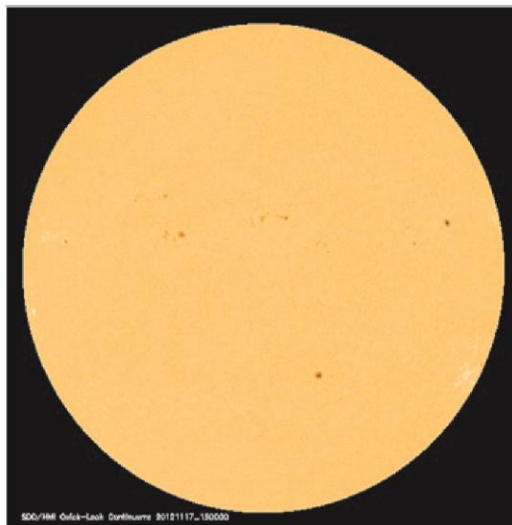
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WORKSHOP 6



WORKSHOP 7

