



# ARCHITECTS

## ACTIVITY ONE

# HOW TO BUILD A PAPER DODECALIS DODECAHEDRON!

Dodecahedron what a long and tricky word, let's say it together – DO - DEC - A - HE - DRON!

The Dodecalis Luminarium is named after the Dodecahedron, which is a 12 sided shape and inspired Architects of Air in their design, can you tell?

We want you to build your very own Dodecalis, all you need is: paper, scissors, glue and a sprinkle of imagination. Follow the instructions below and let's MAKE!

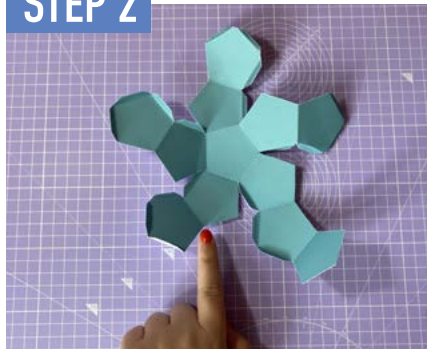
## Instructions

### STEP 1



Cut out the template along the solid line - Take your time and try to be as neat as you can, if you are struggling ask a friend or grownup to help with those straight lines!

### STEP 2



Next, we are going to fold along the dashed lines, this will help us build the dodecahedron.

### STEP 3



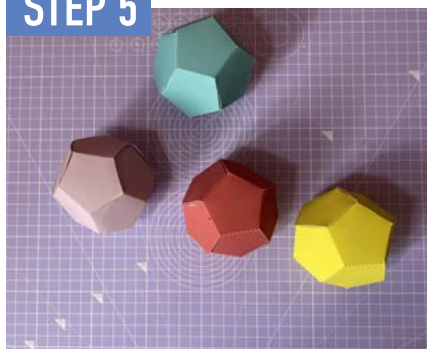
It's about to get sticky! Spread glue on the dotted tabs, be careful not to use too much glue.

### STEP 4



Begin to fold the shape together using the glued dotted tabs to stick together the sides. **Tip:** If you glue them to stick on the inside it will look a lot neater!

### STEP 5



Now REPEAT! Using the extra colourful sheets provided, build the rest of your dodecahedrons.

### STEP 6



Once you have created your dodecahedrons stick them together any way you like to create your very own Luminarium!



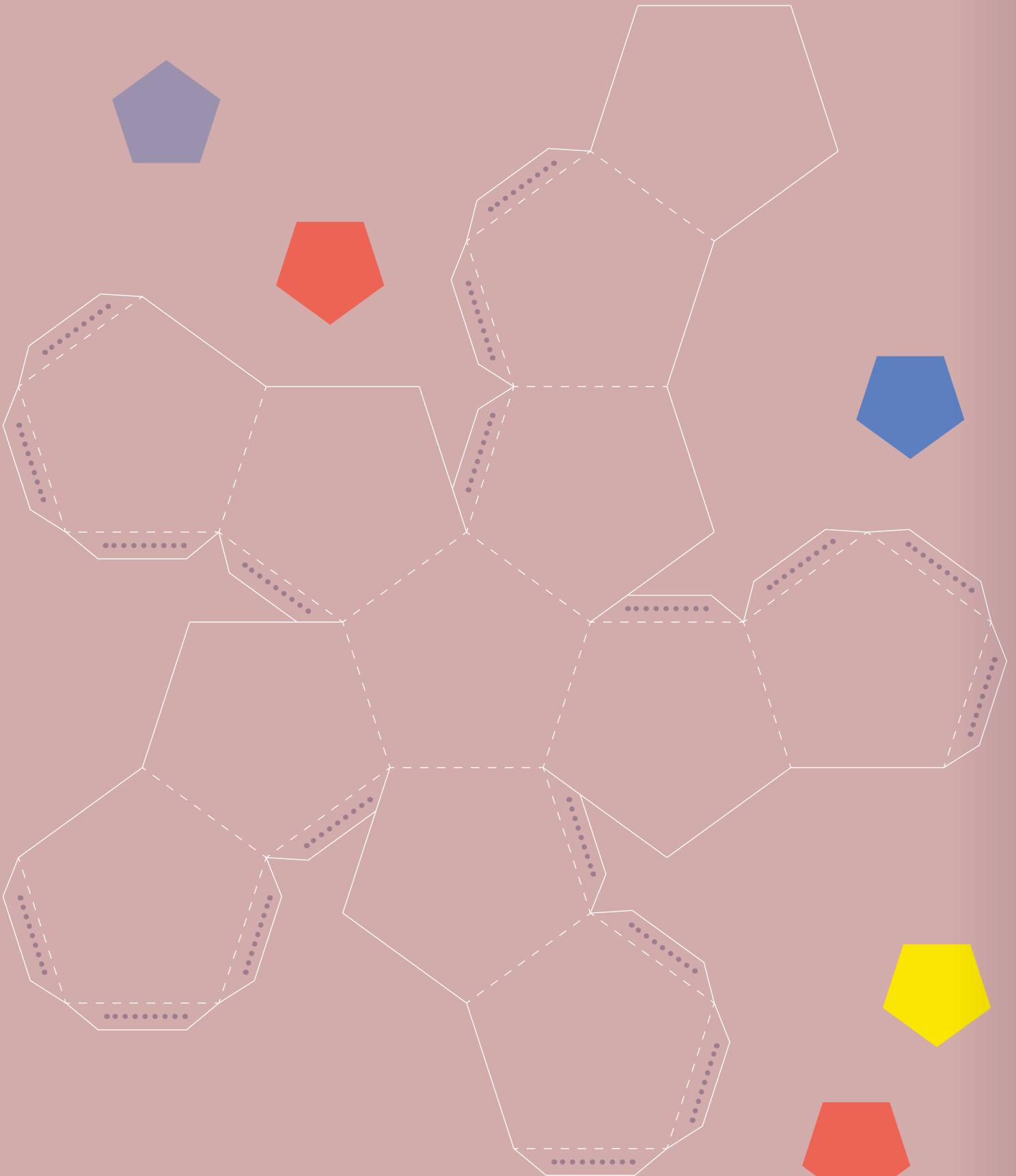
### Materials:

**PAPER SHEETS**  
(From this booklet)  
**SCISSORS**  
**GLUE**

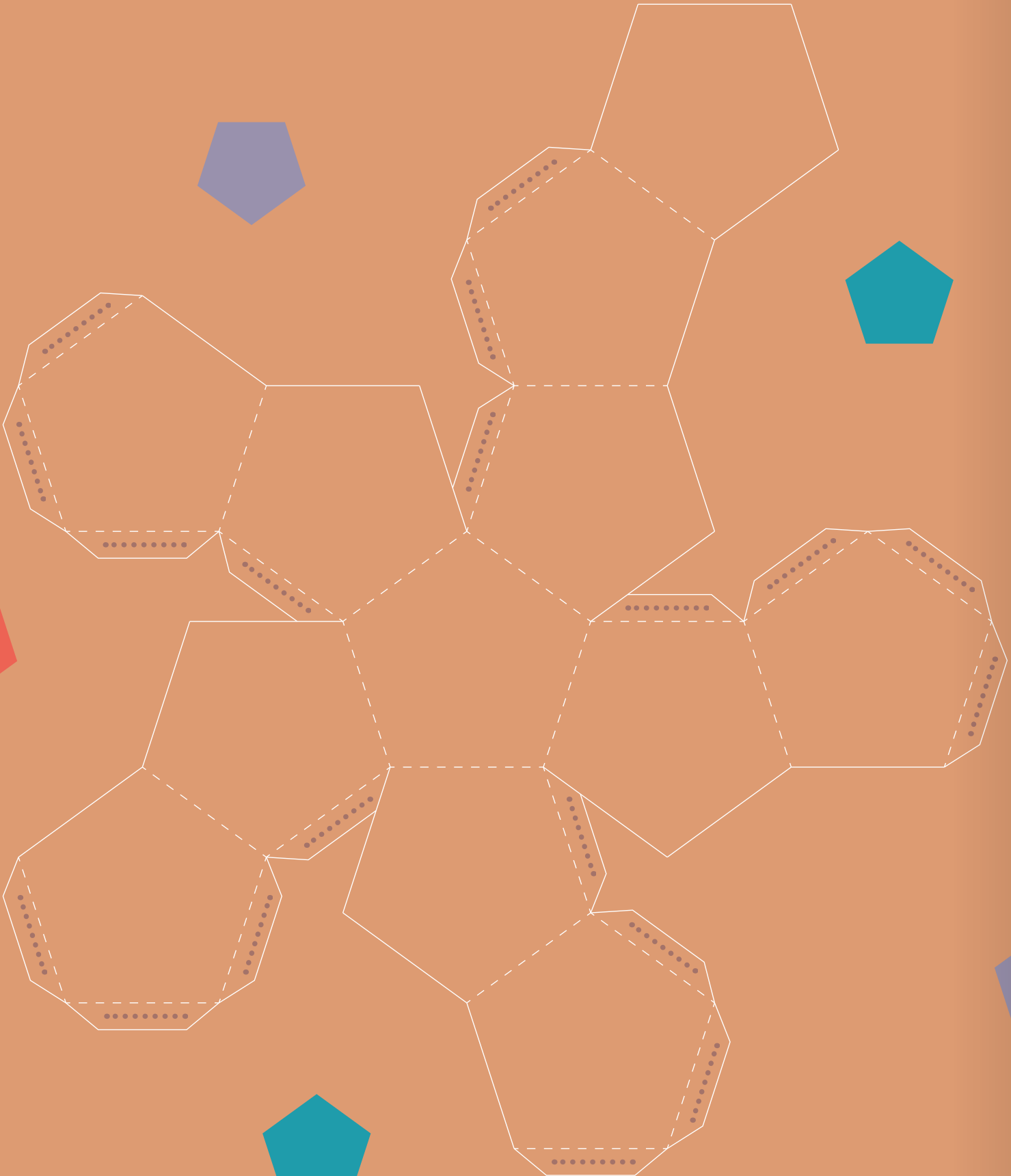
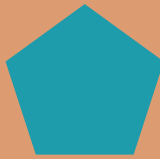
### Key:

**SOLID LINE** ————— Cut  
**DASHED LINE** - - - - - Fold  
**DOTTED LINE** ..... Glue













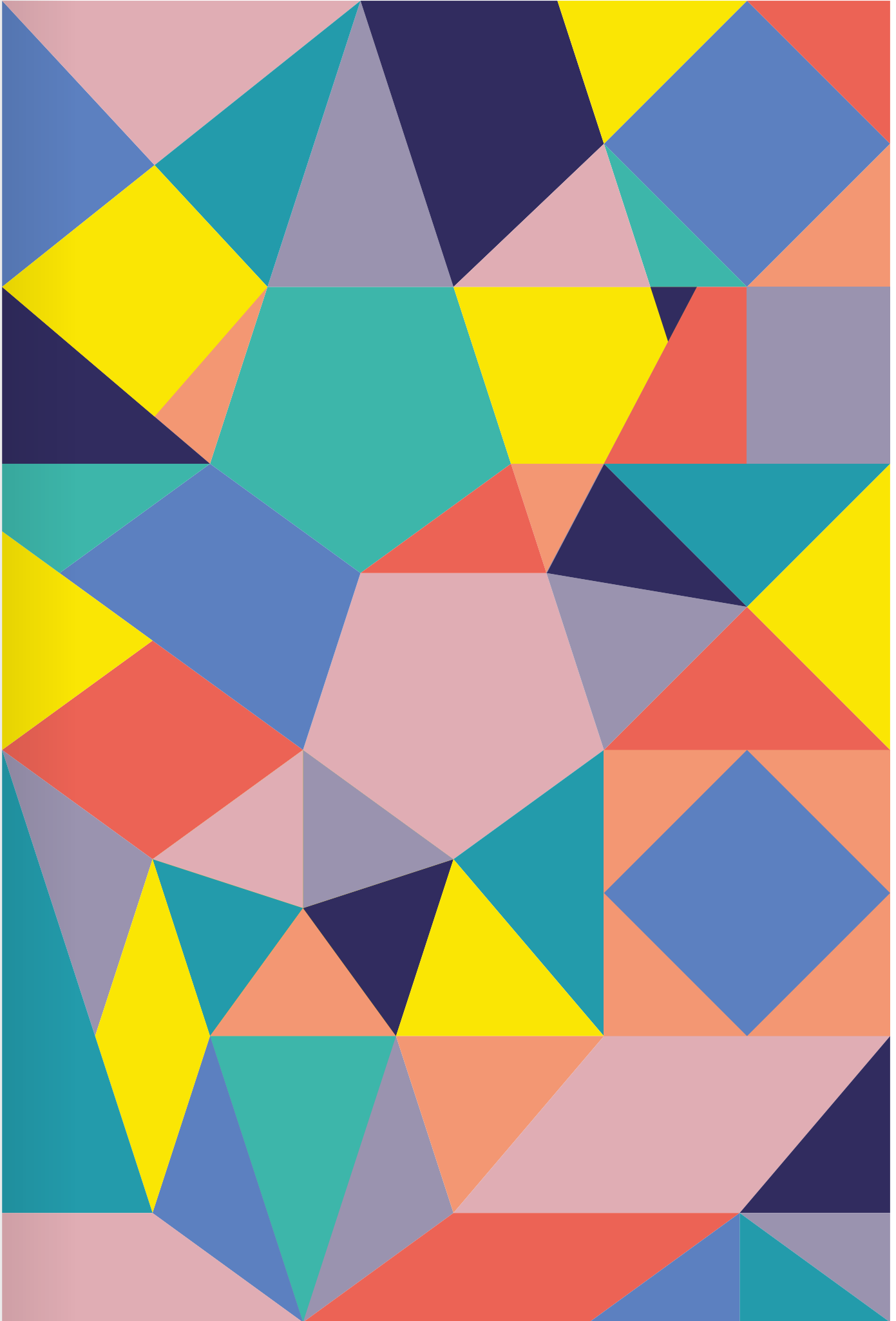




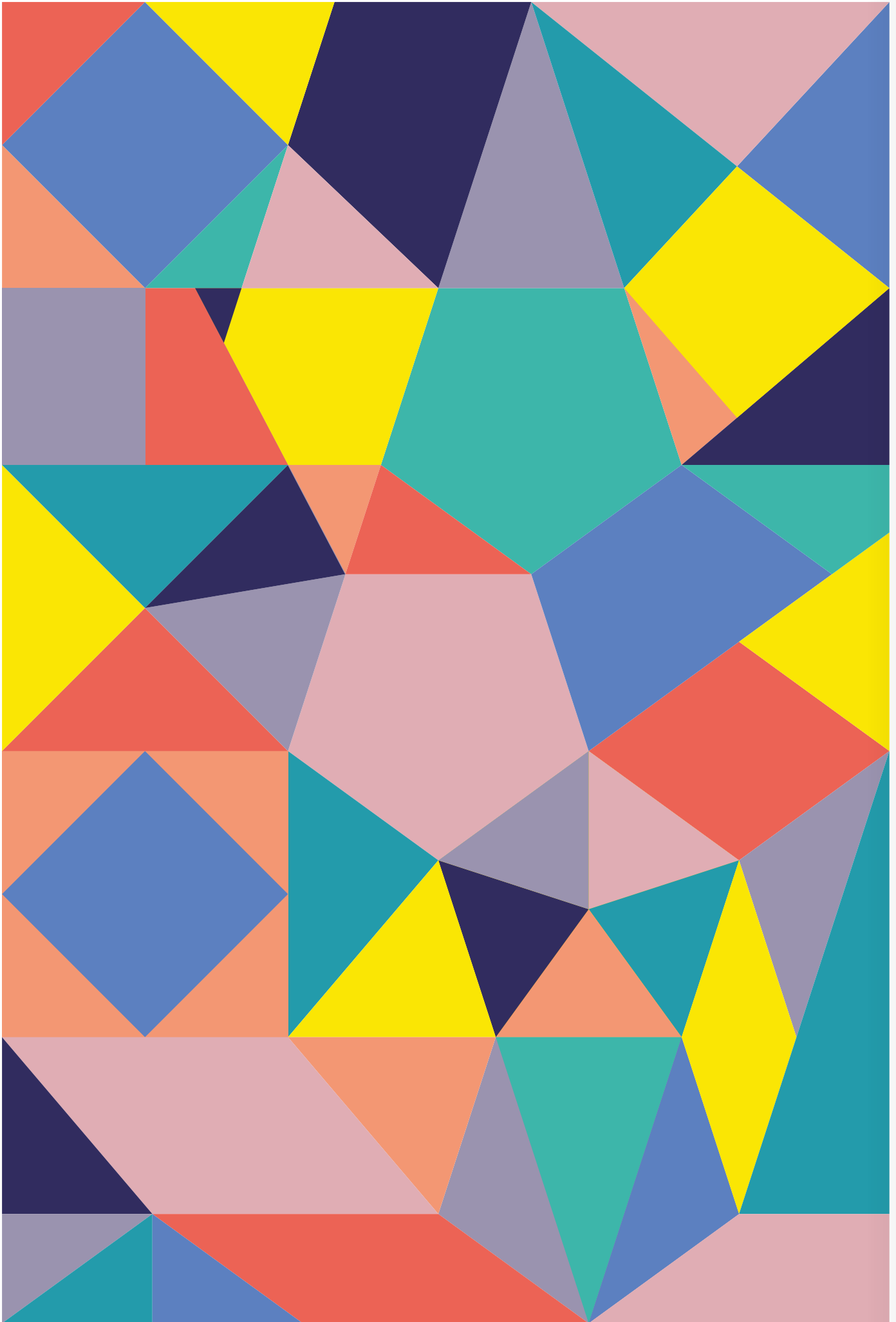


**ACTIVITY TWO** COLLAGE YOUR OWN LUMINARIUM

See page 13 for instructions! →



Cut me out to use for your collage!



## ACTIVITY TWO

# COLLAGE YOUR OWN LUMINARIUM

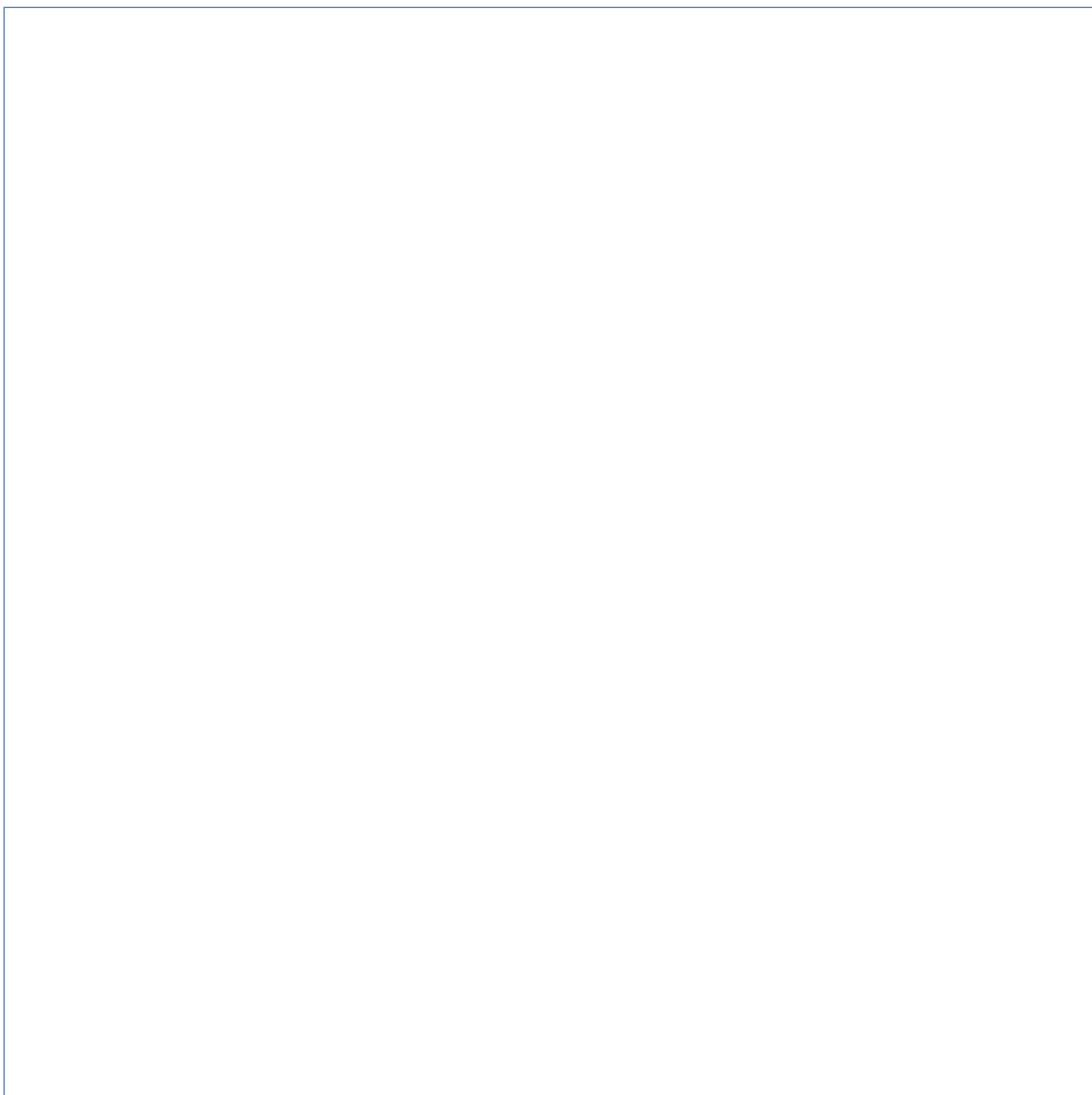
The Dodecalis is created by lots of different shapes joined together. Each Luminarium is made completely by hand. Thousands of shapes are cut out and joined together to make the geometric structure you saw today, and now it is your turn!

Using our collage sheets, cut out the shapes and collage your very own Luminarium. Think about the design carefully.

**Tip:** Imagine you are walking through the Luminarium, think about where the rooms would go, would it have a dome, how many pods would you want?

**COLLAGE**

Use this space to create your collage or use your own sheet of paper at home.



## ACTIVITY THREE

## LET'S BUILD A KALEIDOSCOPE

A kaleidoscope is an object which shows you a changing pattern of shapes and colour, you twist and rotate the tube whilst looking into it, kind of like a telescope except instead of looking at stars you step into a world of colour!

## What you will need:

- ◆ RECYCLED PAPER TUBE (this could be from kitchen roll or wrapping paper!)
- ◆ RECYCLED CLEAR PLASTIC FOOD PACKAGING
- ◆ MIRROR CARD OR CARD WRAPPED IN ALUMINUM FOIL
- ◆ SCISSORS
- ◆ PVA GLUE
- ◆ CLEAR TAPE
- ◆ TISSUE PAPER, GLITTER, SEQUINS OR CLEAR COLOURFUL BEADS...  
basically anything colourful and shiny!
- ◆ COLOURED CARD OR PAPER



## Instructions

## STEP 1



Take your paper tube and cut it to the size you want it, kitchen roll size is perfect!

## STEP 2



Next grab your recycled plastic, we want to use a piece which is flat, smooth and clear. Take your paper tube and draw around the end of the tube to make a circle on the plastic sheet and do this twice.

## STEP 3



Let's cut out our circles! Circle 1 needs to be placed inside the tube, so you may need to trim it slightly to fit nice and snug. Circle 2 will rest on the top of the paper tube kind of like a lid, so don't cut it too small. If you are struggling with your scissors, ask a friend or a grown up to help!

## STEP 4.1



Take your pieces of mirrored card or card wrapped in aluminum. Fold and measure out 3 strips the same width as the inside of your paper tube and cut out.

## STEP 4.2



## STEP 5.1



Check the card strips fit inside your paper tube! Next tape your three strips together to make a triangular prism with the shiny side on the inside.

## STEP 5.2



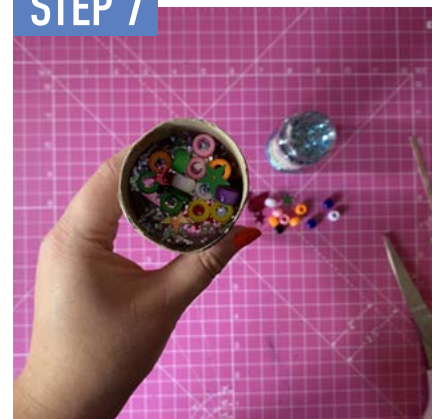
Adjust this until it fits nicely inside your tube, you can use some clear tape to hold it in place. Remember to leave space at the end of the tube to place decorations in.

## STEP 6



Next, place circle 1 inside the tube so it rests on top of your triangle. You can use your clear tape to keep it in place.

## STEP 7



Add your colourful beads, sequins and glitter on top of circle 1, we want to see lots of colour here! **Tip:** If you stick bits of tissue paper on the clear circle this will make it extra colourful.

## STEP 8



Take circle 2 and place it on top of the tube to hold everything in place, use more tape to stick it together.

## STEP 9

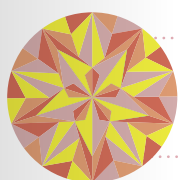


Let's decorate! Using coloured card or paper, decorate the outside of your tube! Can you make a colourful pattern? **Tip:** We would recommend using PVA glue to stick down your designs, plus it's super fun to peel off your hands when you're finished!

## STEP 10



You will use the other end of the paper tube to look through, so let's make a viewing hole! Using paper or card, cut a circle which will fit inside your kaleidoscope and cut a hole in the middle big enough for you to look through, remember to ask an adult for help! Use some PVA glue or tape to keep this in place.



**Now you are ready! Explore a world of light and colour using your very own kaleidoscope. Look through the viewing hole and twist the tube as you look through to see colours and shapes dance!**

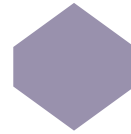
## ACTIVITY FOUR

## LET'S MAKE SOME COLOUR!

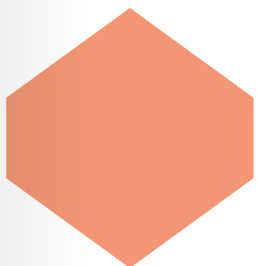
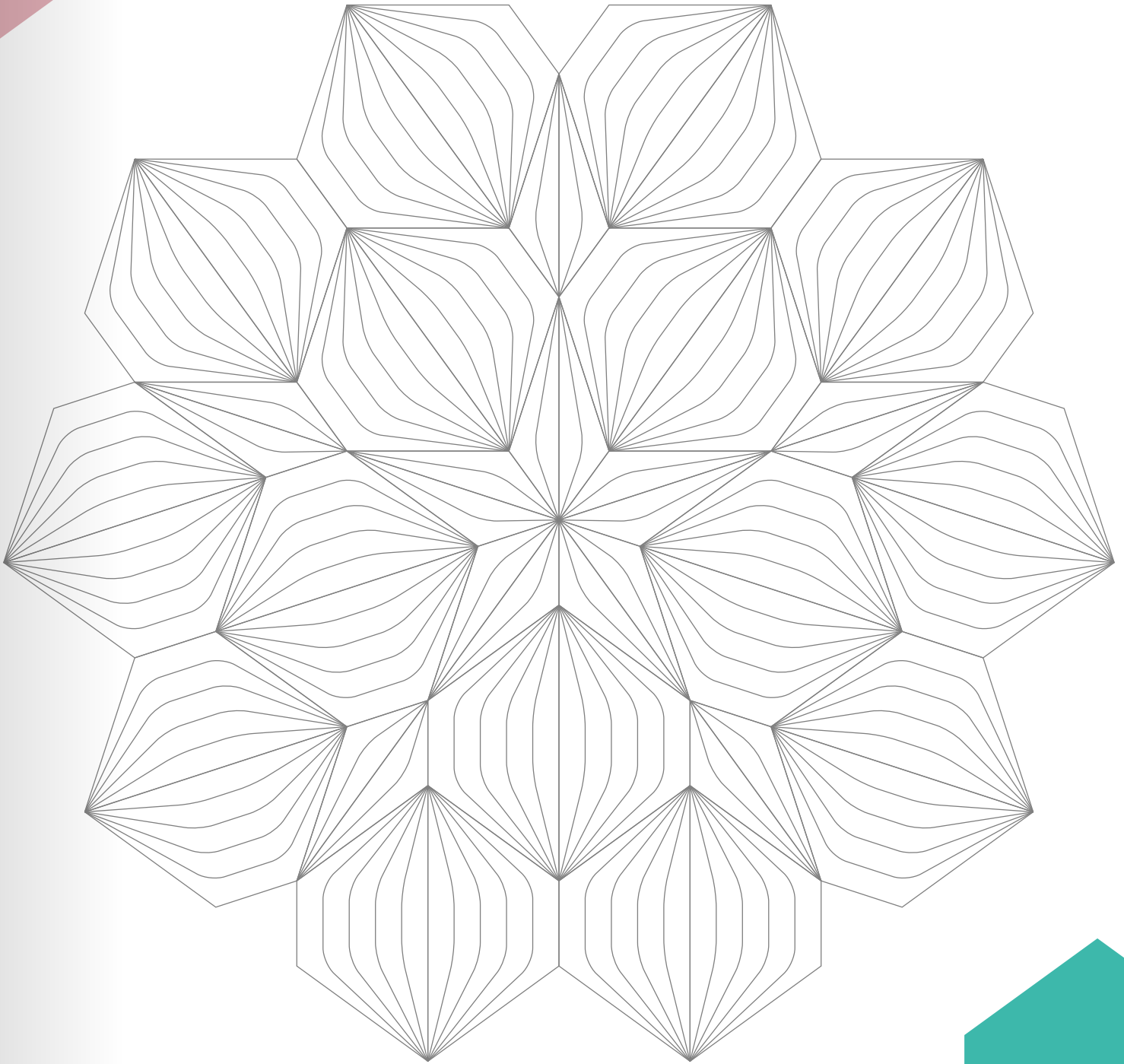
Have you ever thought about how a colour is made? Yellow and red make orange, blue and red make purple - there are so many colour combinations to be found! Well, we have a challenge for you...

Using paint, we want you to see how many colours you can make to fill out the Dodecalis inspired star, remember you have to use a new colour for each shape!

Can you complete our colour mixing challenge?  
Good luck!







## ACTIVITY FIVE

# CAN YOU BUILD YOUR OWN LUMINARIUM?

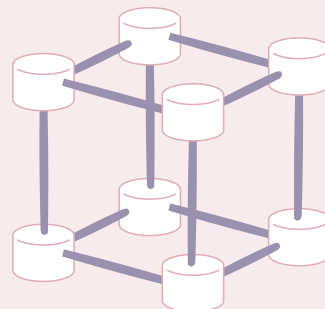
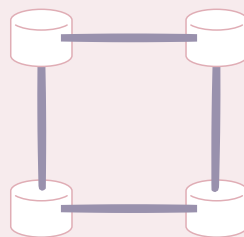
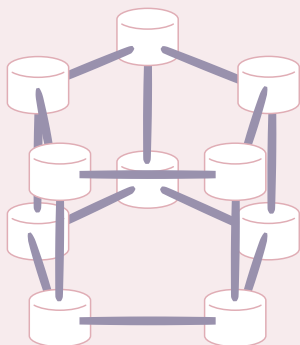
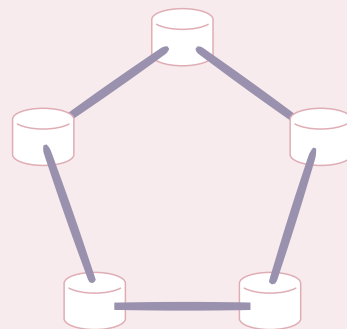
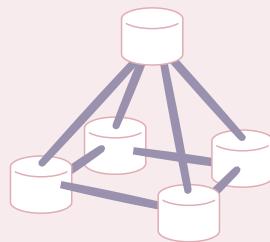
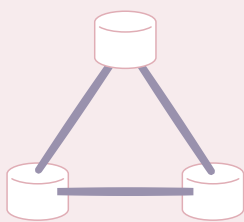
Let's **MAKE** our own Luminarium out of Toothpicks and... **MARSHMALLOWS!** Yes that's right, making and sweets, what could be better? For all you healthy tots out there we recommend using nature's sweets - delicious grapes for this activity!

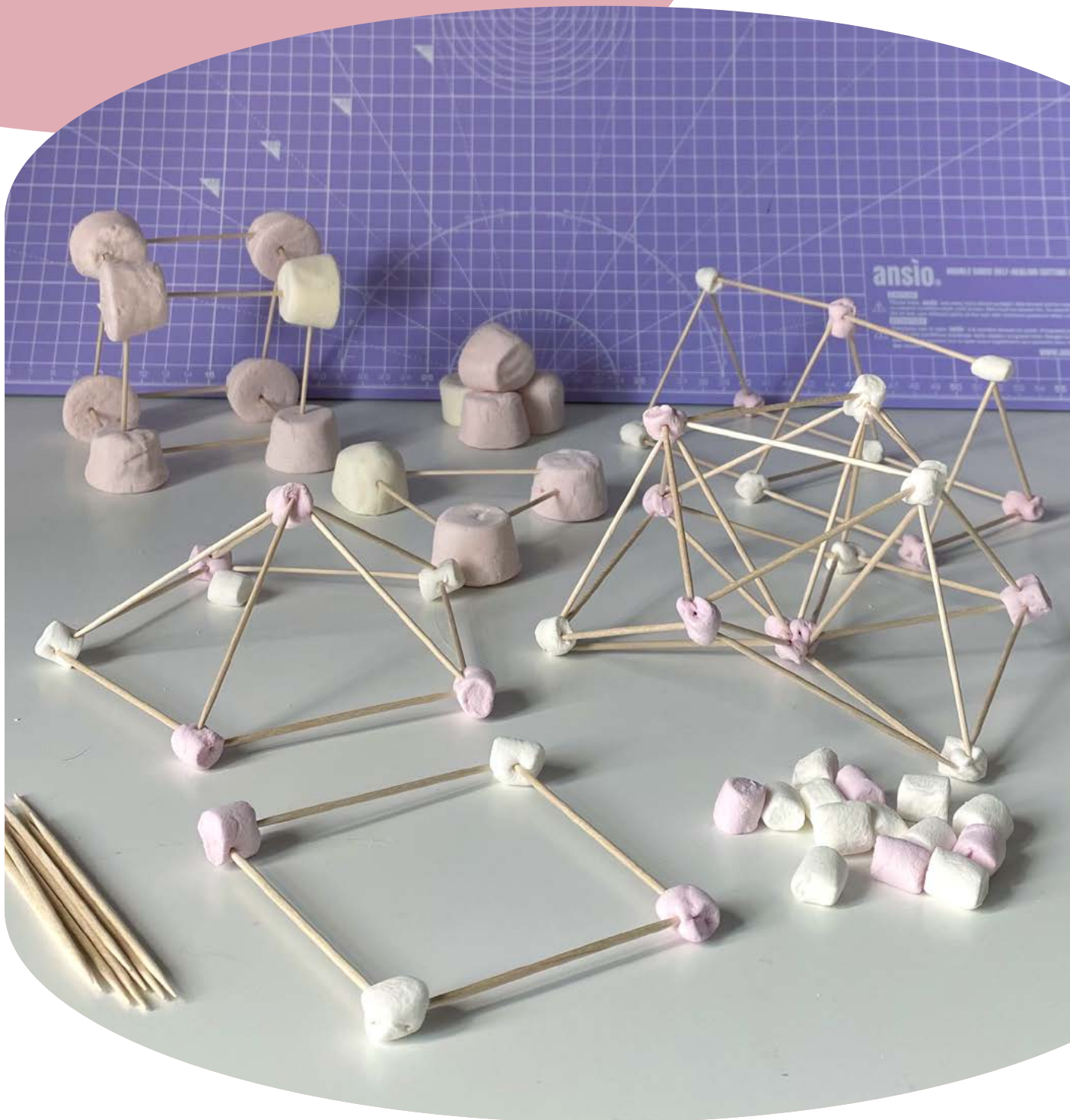
## What you will need:

- **TOOTHPICKS**
- **MARSHMALLOWS OR GRAPES**

Try and make the shapes out of your materials using the templates below! Once you have mastered becoming a super builder, see if you can make your own Luminarium based on these shapes.

**How big can you make it?**





**In 2021, the National Festival of Making is bringing the Dodecalis Luminarium, created by Architects of Air, to Blackburn.**

The National Festival of Making is a unique celebration of making, from the kitchen table to the factory floor and we are proud to collaborate with inflatable makers, Architects of Air on this activity booklet.

This pack is created in partnership with The National Festival of Making and has been inspired by the Dodecalis Luminarium.

## About Architects of Air

Architects of Air have a passion for engineering, design & making - using these skills they have created a sensory colour experience like no other. The creator, artist and maker Alan Parkinson has been on a personal, three decade mission to capture the changeable beauty of light. The giant inflatable sculptures he's created are inspired by Islamic architecture and the complex geometries of Gothic cathedrals.

They have been celebrated as playful, contemplative and ambitious temporary landmarks in every city they have visited, from Australia and Germany to the USA and beyond - as well as the home of The National Festival of Making, Blackburn, UK.

## About The National Festival of Making

The National Festival of Making is a unique celebration of UK making, from the kitchen table to the factory floor. Presenting a programme of work that combines Art, Manufacturing, Making and Communities, we commission national and international artists to create world class works, a year round programme and a participatory festival for all to enjoy.

Taking place over two festival days, with long term projects running throughout the year, The National Festival of Making is a programme of artist commissions, with workshops, music, markets, street food, art, performance, tours, talks and above all, an eclectic mix of making experiences for everyone to enjoy.



[festivalofmaking.co.uk](http://festivalofmaking.co.uk)

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## Architects of Air

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