

Mobiles for Visual, Tactile, and Auditory Experiences

The Munari (1st mobile in visual series)

Age:

birth

Position:

supine, 30-35cm from the eyes of the child

Materials:

- ✓ 1 crystal globe, 6 or 7 cm in diameter black and white paper, The paper should not be too shiny. It is helpful if it's self-adhesive.
- ✓ thread (*silk or cotton, must be twisted so the objects rotate*)
- ✓ doweling- 4-5 mm

*Note: everything depends on the size of the ball
the ball can be bigger or smaller because it will be proportional, however this is the suggested size of the materials.*

Tools:

- ✓ pencil
- ✓ ruler
- ✓ compass – one that cuts circles
- ✓ sewing needle
- ✓ glue - spray adhesive (*white glue works well enough*)

Formula:

A=diameter of the globe

$B = A + \frac{1}{3} r$

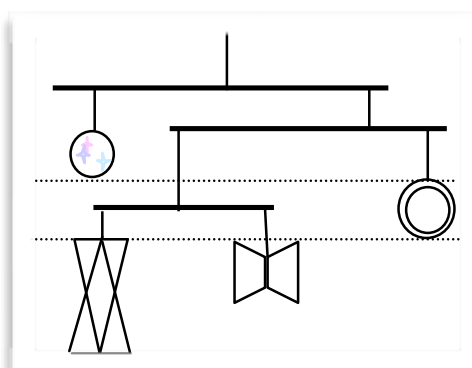
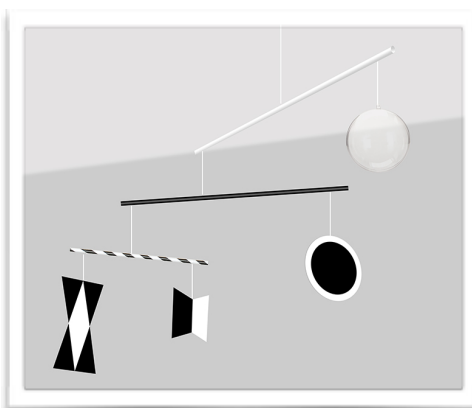
*Note: everything about the mobile depends on the size/
diameter of the glass globe.*

Ex. diameter is 6 (could be 7cm) $A=6\text{cm}$

$B = A + \frac{1}{3} \text{ radius}$ $B = 6 + \frac{1}{3} * 3$ $B = 6 + 1$
 $B = 7$

Ex. $d=7$ $A=7$

$B = 7 + \frac{1}{3} r$ $B = 7 + \frac{1}{3} * 3.5$ $B = 8.2$



Construction:

1. Using the formula, cut the shapes.

- ♦ 1 black circle, diameter B
- ♦ 1 white circle, diameter B

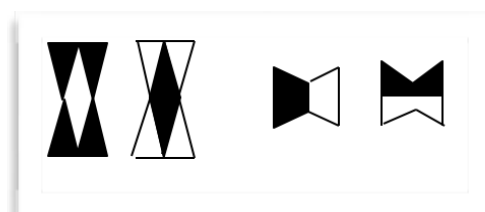
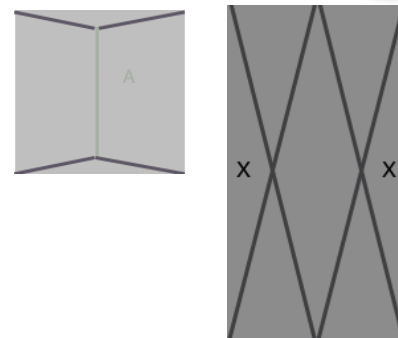
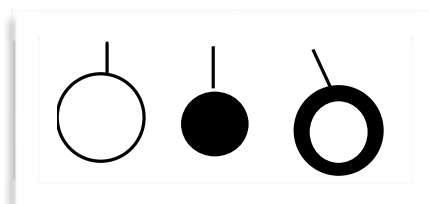
-cut an A circle out of the black B circle
 -glue little black onto big white and little white onto big black

2. Cut 2 rectangular shapes length 2B, width B

- a) 1 white
- b) 1 black
- c) cut one into a parallelogram & 4 “corners”

3. Cut 3 square shapes, B modified in middle to A

- a) 1 white square
- b) 2 black squares
- cut in half and
- glue them together so the shapes are mirrored on each side
- one side is vertical
- one side is horizontal
- * hung like a butterfly. (see right)



4. Cut the dowels:

3A

5A

6A

- 5. To hang, start at the bottom, with the “rectangle” and the “square”.
- 6. Then hang the circle, then the globe: Hang them with the twisted thread so that each dowel can revolve without the figures touching each other.
- 7. Secure all but the top thread with glue, once balanced.

Aim:

- 1. To give the child something on which to focus (black and white is great for contrast, and babies respond to geometric figures)
- 2. To benefit the eye muscles (baby moves their eyes and trains their ability to focus)

Notes: the outside lines of the circles are very thin, BUT, when you cut the black the circle and you cut the 2.d circle outside, you may make the outer circle a little thicker. That's okay, in order to give the baby more contrast.

The Octahedron (2nd mobile in visual series)

Age:

1-2 months

Position:

supine (on the spine)

Note: 2D mobiles should be hung slightly in front of the child

Materials:

- ✓ Metallic paper (yellow, blue, red)
- ✓ Patterns: length—4.5 cm, med.—3.5 cm, sm—2 cm
- ✓ Silk thread
- ✓ Pen or pointed instrument
- ✓ Glue for metallic paper
- ✓ Thin wire: inside width 20 cm; 10 cm
- ✓ Needle-nosed pliers
- ✓ Scissors

Construction:

1. Trace with pen onto paper
2. Cut out, not dotted lines
3. Fold on the dotted lines (you need to remember where the top is going to be)

Note: Use super glue, leave the top a little bit open, insert needle and thread, then glue it shut. Never glue the centre strings, because you won't be able to slide it, but only glue the tips of the wire.

Prepare wire:

1. Cut 2 pieces of metal wire: 20 cm, 10 cm
2. At ends curl the wire under
3. Put wires together before you hang on shapes
4. Tie slipknot onto wire in the middle, attach small arch to one end of the big arch

Hang:

Keep the strings small so they don't tangle.

Biggest shape, 10-12cm string

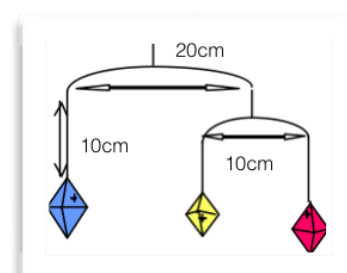
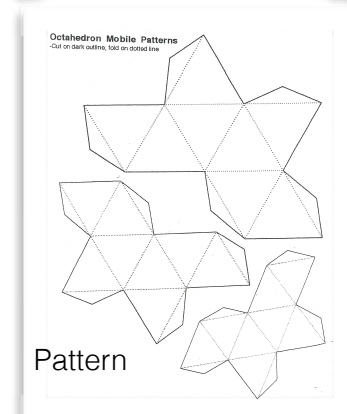
Other two shapes hang on strings of equal length

Use:

30-35cm from the eyes of the child

Aim:

Stimulation of the visual sense



The Gobbi (3rd mobile in visual series)

Age:

Start at 3-4 months

*baby won't be able to recognise the shades of colours until this time

Position:

supine (on the spine)

*2D mobiles should be hung a little bit in front of the child, but octahedron is 3D, so it can be hung above the child

Description:

- Spheres of graduating colour, made of embroidery floss covering styrofoam or plastic balls
- 5-7 balls
- Graduation of 1 colour- must be the exact same hue, usually the numbers are consecutive
- Foam balls- not bigger than 4.5cm diameter

Note: the balls can also be felted or embroidered

Materials:

- ◆ 5 or more (7, 9) balls of Styrofoam, approximately 4 cm in diameter
- ◆ 5 gradations of a single colour embroidery floss (two of each) They might be be consecutively numbered.
- ◆ 25 cm of 3-5 mm wooden doweling
- ◆ large-eyed needle
- ◆ (hot) knitting needle or pen to make hole (traditional)
- ◆ glue

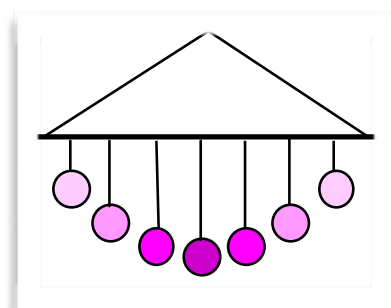
Construction:

*make 1cm hole through middle and wrap the thread all around the ball, from wider to thinner around and around the ball. This may ruin the ball)

*OR use a pin on each side to hold the ball, without hole, using very thin hole

*OR make a very small hole, .5, wrap regular thread until the hole is full and then finish w/Japanese construction w/ pins until ball is finished.

*first one is just a tester, and probably won't be able to use in the mobile



Hang:

Some people use long strings, but they tend to tangle

Start w/ shortest string- approx. 7cm

Light on top, dark on bottom

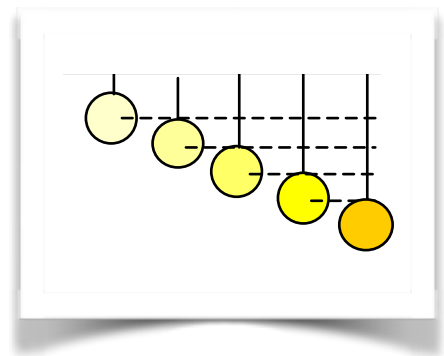
Equal distance between the strings, hanging so that just barely DONT touch.

Vertically, top of the lower ball reaches the middle of the next ball up.

No specific measurements, each mobile is simply proportional.

Glue knots at the top of the rod.

Dowel can be thicker than in the Munari



W/7 balls, uses only 4 colours, 2 extra balls.

Can use spiral shape ball with more balls and more shades, if possible

The next ball should start $\frac{2}{3}$ of the way down previous ball. They do not touch.

Use:

30-35cm from the eyes of the child

Aim:

1. Stimulate focus
2. Introduction to chromatic gradation

Stylised Paper Figures (Blue and Silver Dancers)

Age:

Start at 3-4 months

*baby won't be able to recognise the shades of colours until this time

Position:

supine (on the spine)

Description:

Stylised paper figures: Mobile with suspended figures made of paper and hung with silk thread. The original was not on holographic paper, but shiny paper. The holographic is pretty and works well.

Materials:

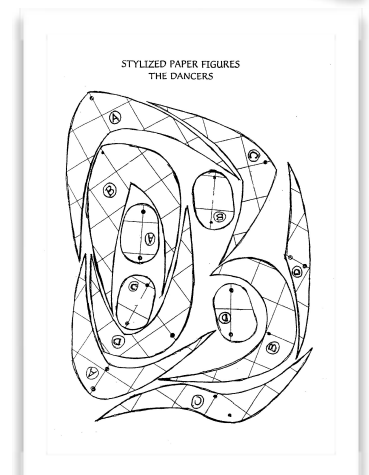
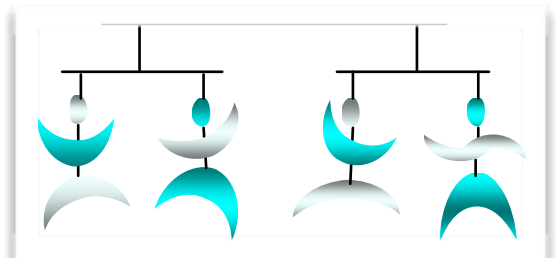
- ◆ coloured (blue and silver) metallic, holographic paper (if holographic on one side only, spray glue two colours together)
- ◆ Silk thread and needle (approximately 90 cm of 3-5 mm doweling)
- ◆ Pattern

Notes: Can glue two pieces of paper together with spray paper or find holographic paper that is self adhesive (this is the easiest option.)

Traditionally, this mobile is made in blue and silver, but other colours are also acceptable, providing they are contrasting and opposite intensities. If the colours are contrasting, but they are the same intensity, the baby will still have trouble seeing them. (Suggestion: silver or gold+ dark contrasting colour; warm + cold)

Construction:

1. Put the two pieces of paper together before you cut out the pattern!
2. Attach the pattern to the paper so that it will not slide
3. take a sharp pen or something to cut out the pattern. The pattern is labeled with ABCD for the four dancers, with a dot where you attach the strings.
4. Cut out the figures
5. 1 Skewer- 30cm, 2x 18 or **35,20,20** (or adjust size (So the dancers can turn and never touch when you lay it out and will not tangle))
6. Cut the smallest hole possible with a thin needle, the smaller the more beautiful and connect the head to the arms. Attach arms to legs with a separate little string. This is the only way for maximum rotation. Leave about 1cm between (not too long).
7. Attach a string (10-12 cm) from the head to attach to the dowel, but don't attach it yet.
8. Attach the dowels with the string from the middle of the longest dowel for mounting.
9. Attach the dancers. Glue the knots on the TIPS of the dowel, but the knots in the middles of the dowels must be able to slide.



10. Balance the mobile by sliding the middle string

Notes: Make sure all lengths are equal, they need to be as beautiful as possible (if there's .5 cm difference, it's not a big deal)

If you glue the sliding knots, be careful not to put it on the dowel.

Hang:

Some people use long strings, but they tend to tangle

Start w/ shortest string- approx. 7cm

Light on top, dark on bottom

Equal distance between the strings, hanging so that just barely DONT touch.

Vertically, top of the lower ball reaches the middle of the next ball up.

No specific measurements, each mobile is simply proportional.

Glue knots at the top of the rod.

Dowel can be thicker than in the Munari



W/7 balls, uses only 4 colours, 2 extra balls.

You can use spiral shape ball with more balls and more shades, if possible.

Use:

30-35cm from the eyes of the baby

Between 3-6 months, move the mobile farther away as the vision of the baby improves

Aim:

1. To stimulate focus
2. Enjoyment

Commercial Mobiles

Age:

first months

Position:

supine (on the spine)

Description:

Commercially made/store bought

- must be light enough to move with the air currents
- can be made from holographic paper, which reflects light
- usually hung with nylon thread or cord (very strong thread)
- Choose reality-based theme, something that might be suspended in the air in reality
- Size: not too big, not too small (compare to Montessori mobiles)

Use:

30-35cm+

Aim:

1. Stimulate focus
2. Enjoyment



FLENSTED MOBILES

Stylised Wooden Figures

Age:

3+ months

Position:

supine with hand grasping

Materials:

- Light wood, for example balsa wood or birch that can be cut into mobile figures.
- Glue together two pieces, one with the grain, the other against the grain and glue them together for extra strength
- Strong silk thread (can also be nylon thread or fishing wire)
- 5-8 mm doweling or strong wire to hang
- Small saw, small drill
- Thick, strong dowel (the dowel can even be decorated/ decorative)



Description:

Like the stylised paper figures, but made of wood (Ex. can even make the dancers from wood. On side with the grain, another side against the grain)

Still have to be realistic, naturally suspended

If the wood is painted, make sure it's safe. Avoid glitter or parts that will chip.

These are tactile mobiles.

Size varies. Can hang in the style of the octahedron, or on one horizontal dowel.

Include a piece of elastic when hanging. The elastic should be around 20-30 cm long. The harder, the longer the elastic should be, but not so stretchy that it will bounce and hit them when it is released.

In the home: attach permanent hook to the ceiling and a hanging ribbon, etc. After 3-4 months, attach a permanent piece of elastic with a carabiner for switching out mobiles.

Use:

30-35cm+

Must be hung firmly within the child's reach

Aim:

1. Reaching and grasping
2. Stimulate the senses

Three Coloured Spheres (1st mobile in tactile series)

Age:

from 3 months

Position:

supine (on the spine) with hand grasping

Materials:

- Light wood, for example balsa wood or birch that can be cut into mobile figures.
- Glue together two pieces, one with the grain, the other against the grain and glue them together for extra strength
- Strong silk thread (can also be nylon thread or fishing wire)
- 5-8 mm doweling or strong wire to hang
- Small saw, small drill
- Thick, strong dowel (the dowel can even be decorated/ decorative)

Description:

Three wooden dowels or blocks.

Use "eye-screws"; drill a hole, put some glue, and it can be used for hanging (like a normal screw with a hole on top for the thread to go through)

Sphere or any other geometric solids in the primary colours... later can change to the child's favourite colours.

Diameter is 4-6 cm; Thickness is 0.5- 0.75cm

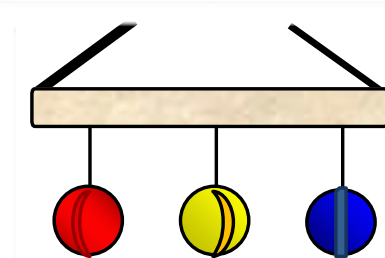
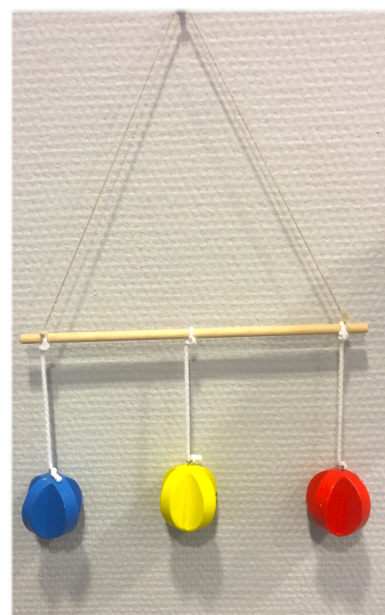
They are very easy to grip, but solid spheres are also acceptable, but these should be smaller so they won't be too heavy, but not too small to swallow

Use:

Hang firmly and safely within the child's reach.

Aim:

1. Encourage reaching and grasping



Bell on a String (2nd mobile in tactile series)

Age:

from 3-4 months

Position:

supine (on the spine) with hand grasping

Materials:

- Brightly coloured ribbon 2-3 cm wide – satin or velveteen is nice. It can also have a patterned ribbon
- Round “jingle bell”, approximately 4-6cm in diameter with no sharp edges and the openings should be small enough so the child can’t get his finger in the holes of the bell. *Can file rough edges with an emory board or fingernail file

Description:

The bell is tied and then sewn onto the ribbon by machine or by hand.

Should have a length of elastic (on the bell itself or on the permanent hook)

It is often the colour of the ribbon which first attracts the attention of the child.

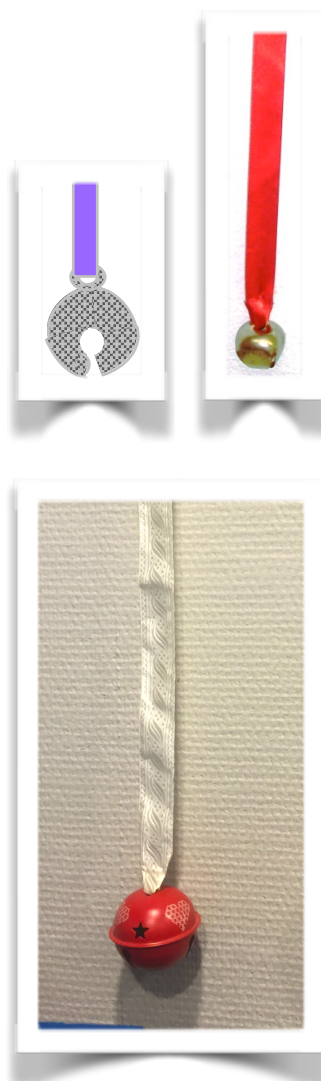
The noise of the bell gives added interest and encourages repetition.

Use:

Hang firmly and safely within the child’s reach so the child can grasp it and bat at it.

Aim:

1. Encourage reaching and grasping and releasing
2. Bells ring encourages repetition
3. Experience with changing the environment
4. Stimulate the sound sense



Ring on a Ribbon (3rd mobile in tactile series)

Age:

from 3-4 months

Position:

supine (on the spine) with hand grasping

Materials:

- Brightly coloured or checked ribbon 2-3 cm wide
- Ring – outside diameter of 8 – 12.5 cm/3-5 inches with a thickness of approximately 1 cm/1/2 inch
- The ribbon should be of a pretty color to attract the child's attention. It should be sewn firmly on and hung so that the child cannot pull it down.

Notes: can be a bamboo ring, wooden curtain ring, plastic bracelet

Description:

Similar to the bell

Must be safe and hygienic, without glitter or anything which might break

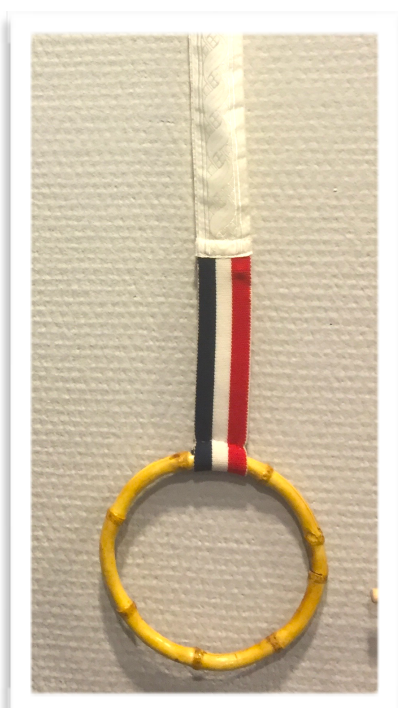
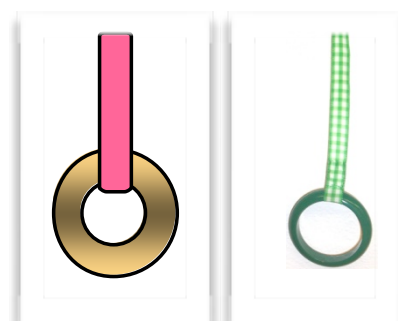
Can change for 3 bracelets which make noise together.

Use:

Hang firmly and safely within the child's reach so the child can grasp it and bat at it.

Aim:

1. Encourage reaching and grasping and releasing
2. Experience with changing the environment
3. Possibly stimulate the sound sense



Music Box

Age:

from before birth

Notes: give a point of reference to the baby after birth

Position:

supine or sitting with support

Information:

- ✓ Purchased commercially or homemade
- ✓ Pull string mechanism (not wind up or crank) which is not very resistant or fragile
- ✓ Can be put in a different holder by drilling holes in a strong wooden or plastic box and decorate the outside
- ✓ Size varies according to box (a good size is 8X8cm or 10x10cm)

Uses:

- box can be fixed firmly to the wall (for example, near the movement mat)
- Parent can demonstrate how to use it and eventually the baby will be able to pull the string himself

Aims:

1. Audio stimulation
2. Audio point of reference (if played before birth)
3. Experience with gripping and pulling down
4. Opportunity to change the environment by one's work



Custom Petitioulou
Cloud Baby Music Box
with various songs

