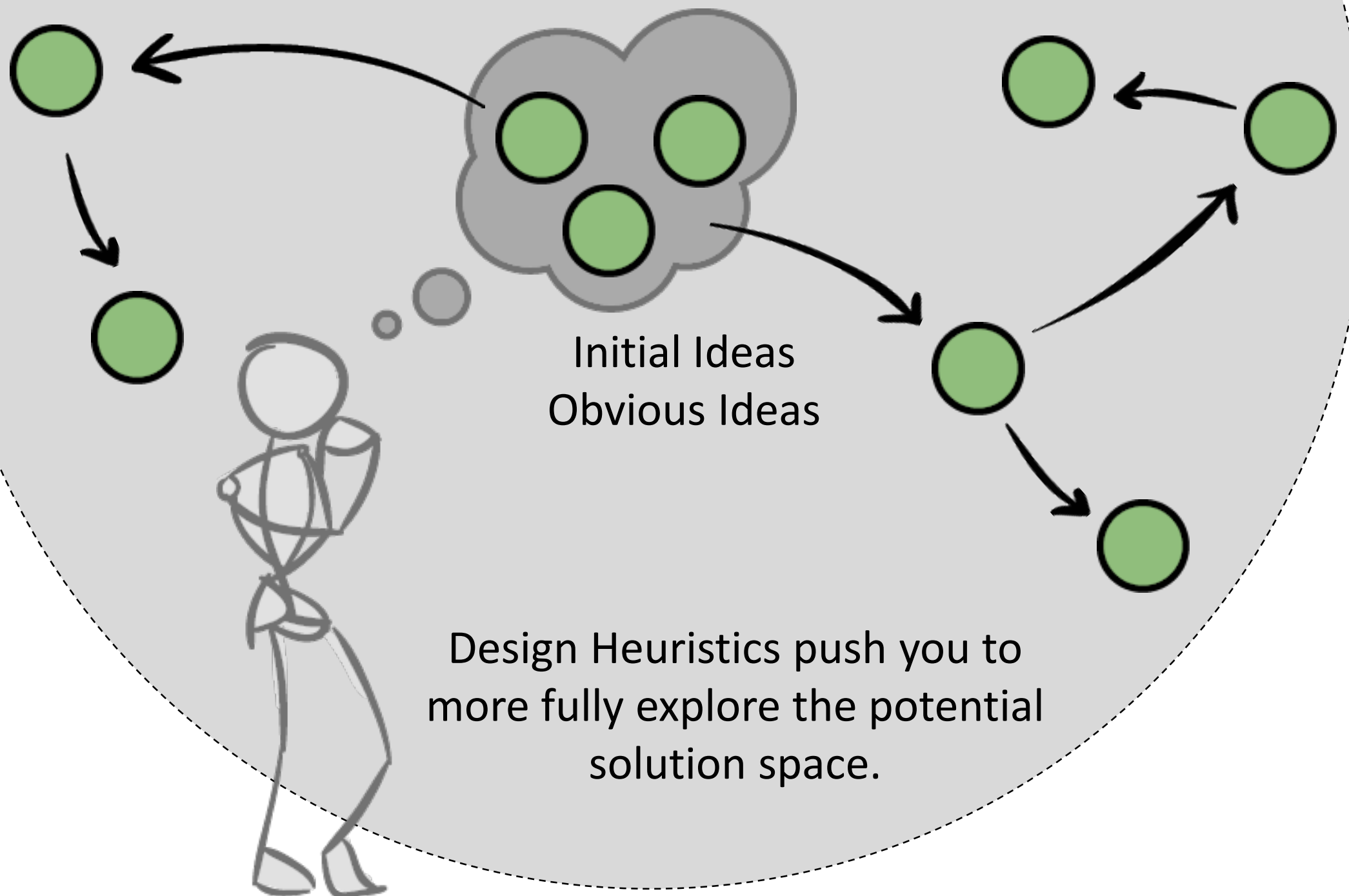# 46 Design Heuristics: Creativity Unfolded

IDEAShub
TOOLS FOR CREATIVE IDEAS

IDEAS hub is an educational programme, aimed at Primary and Post-Primary school teachers, and pupils, aged between 5-17 years.

IDEAS hub informs teachers and educates pupils on idea generation for enhancing creativity and innovation.

DESIGN SOLUTION SPACE

Initial Ideas
Obvious Ideas

Design Heuristics push you to more fully explore the potential solution space.

46 Design Heuristics: Creativity Unfolded

UTILISE INNER SPACE
Make use of the inside of the design. DH75

UTILISE OPPOSITE SURFACE
Make use of another side/surface of the design. DH76

ADJUST FUNCTIONS FOR SPECIFIC USERS
Change the design based on the needs of the user. DH06

ALLOW USER TO ASSEMBLE
Allow the user put the design together. DH1

ALLOW USER TO CUSTOMISE
Let the user personalise part of the design. DH8

ALLOW USER TO REARRANGE
Let the user move/rearrange parts of the design. DH19

ATTACH PRODUCT TO USER
Join the user and the design. DH13

INCORPORATE USER INPUT
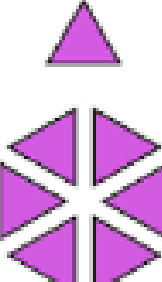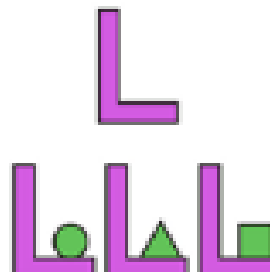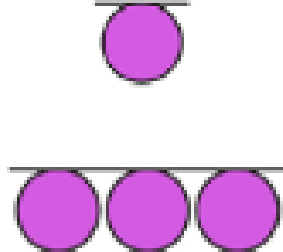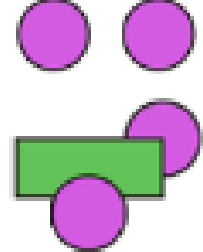Include the user's wants and wishes. DH48

PROVIDE SENSORY FEEDBACK
Allow the design to guide the user by giving feedback. DH56

APPLY EXISTING MECHANISM IN A NEW WAY
Use an existing design in a new way. DH13

CONVERT FOR SECOND FUNCTION
Change the design so it has more than one use. DH26

CREATE SYSTEM
Develop a set of designs that work together. DH20

SEPARATE FUNCTIONS
Divide the use(s) of the design. DH09

ADD MOTION
Make the design move in some way. DH2

ROTATE
Move part of the design around another part. DH57

SLIDE
Move one part across another part. DH61

CONVERT 2-D MATERIAL INTO A 3-D OBJECT
Change the design so it could be made from a flat surface. DH35

EXPOSE INTERIOR
Show the inside of the design. DH33

HOLLOW OUT
Remove the inside of the design's parts. DH37

MAKE COMPONENTS ATTACHABLE/DETACHABLE
Join or take apart the design. DH29

MIRROR/ARRAY
Start or continue a pattern. DH47

OFFER OPTIONAL COMPONENTS
Add choice of parts. DH49

REPEAT
Copy a part of the design. DH04

USE COMMON BASE TO HOLD COMPONENTS
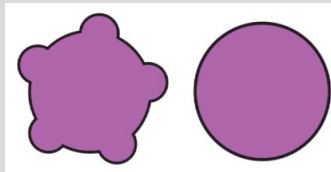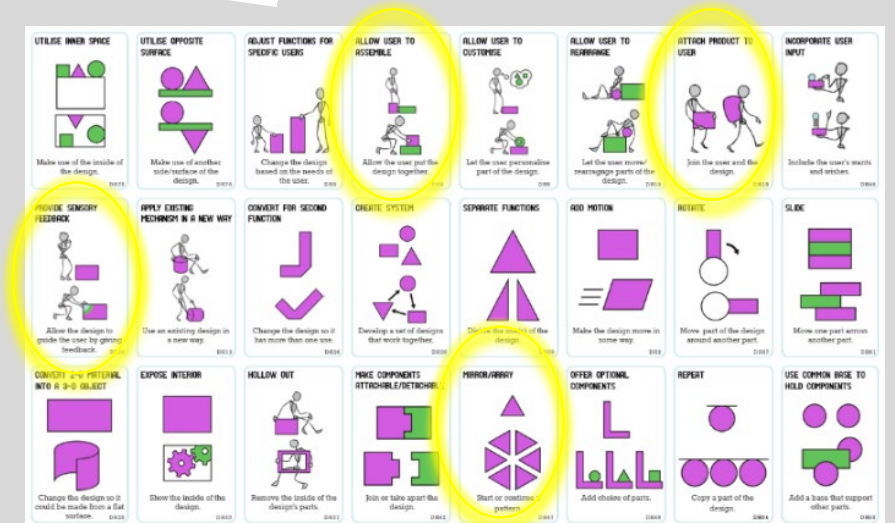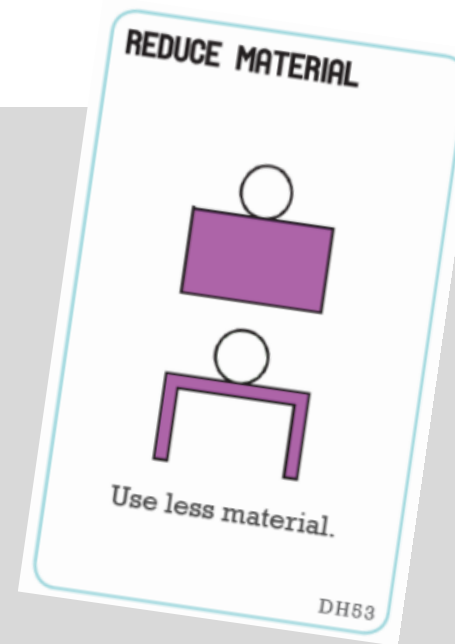Add a base that support other parts. DH08

Ways to use the Design Heuristics

There are no rules!

- *Use one card to generate many ideas.*

- *Use many cards to generate one idea.*

- *Use any feature of a card; title, image, or descriptive text.*

IDEAShub
TOOLS FOR CREATIVE IDEAS

Guidelines for use:

Use any aspect of the handout, such as:

> - Heuristic title
> - Images
> - Description

- To generate or inspire an idea

- Transform an idea by applying a design heuristic to an existing idea

- Develop part of an idea by applying a design heuristic to a part of an idea

Best Practices for Idea Generation

BEST PRACTICES:

1. First concept generation session; Capture what is in your head!

2. Start with a subset of cards; Or one card

3. Work individually (at first); Your voice and ideas are important

4. Encourage doodles, sketches, drawings; Communication is key

5. Creativity, Diversity, and Quantity!

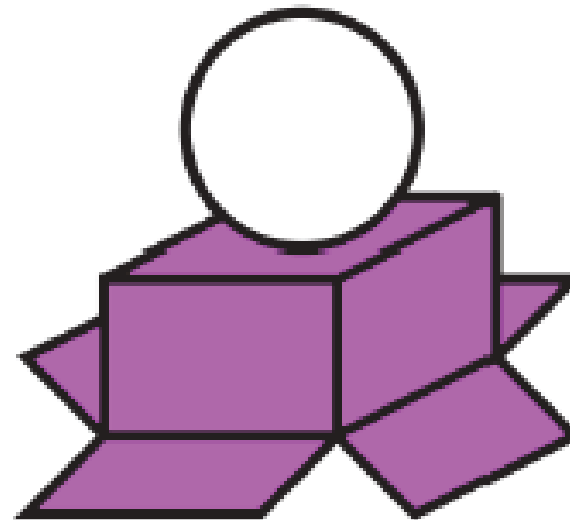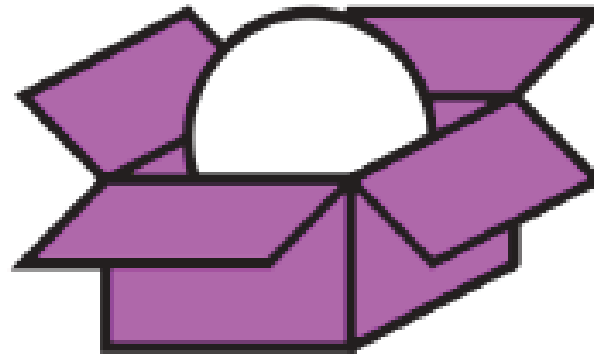6. Generative → Transformative; Start with what you know, and transform from there!

IDEAShub
TOOLS FOR CREATIVE IDEAS

REDUCE MATERIAL
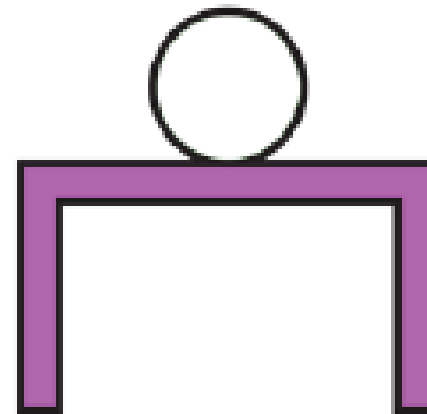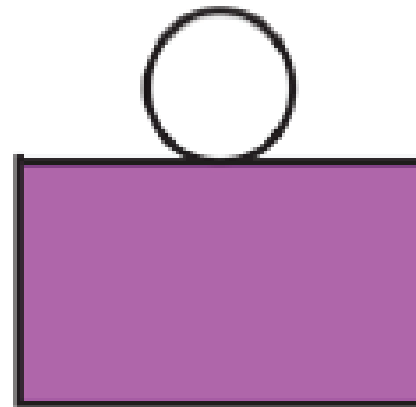
Use less material.

DH53

USE PACKAGING AS A FUNCTIONAL COMPONENT

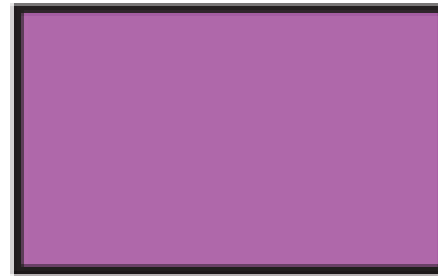Make use of the packaging in the design.

DH73

USE REPURPOSED OR RECYCLED MATERIALS
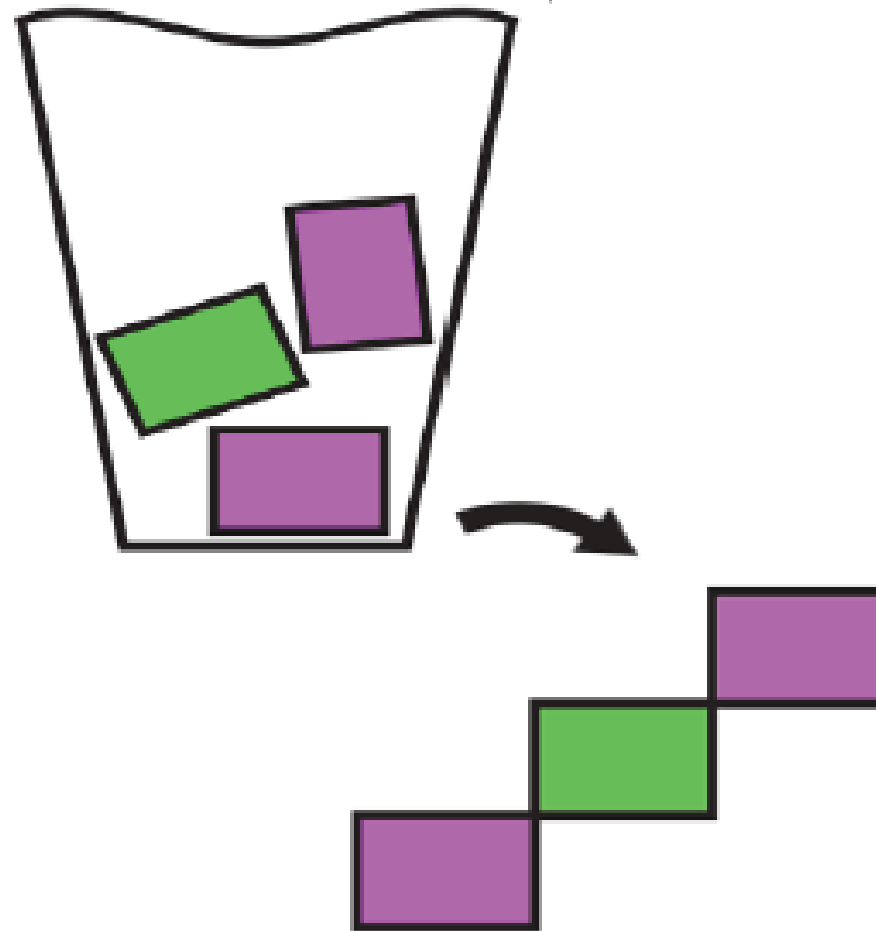
Give old, used or waste materials another use.

DH74

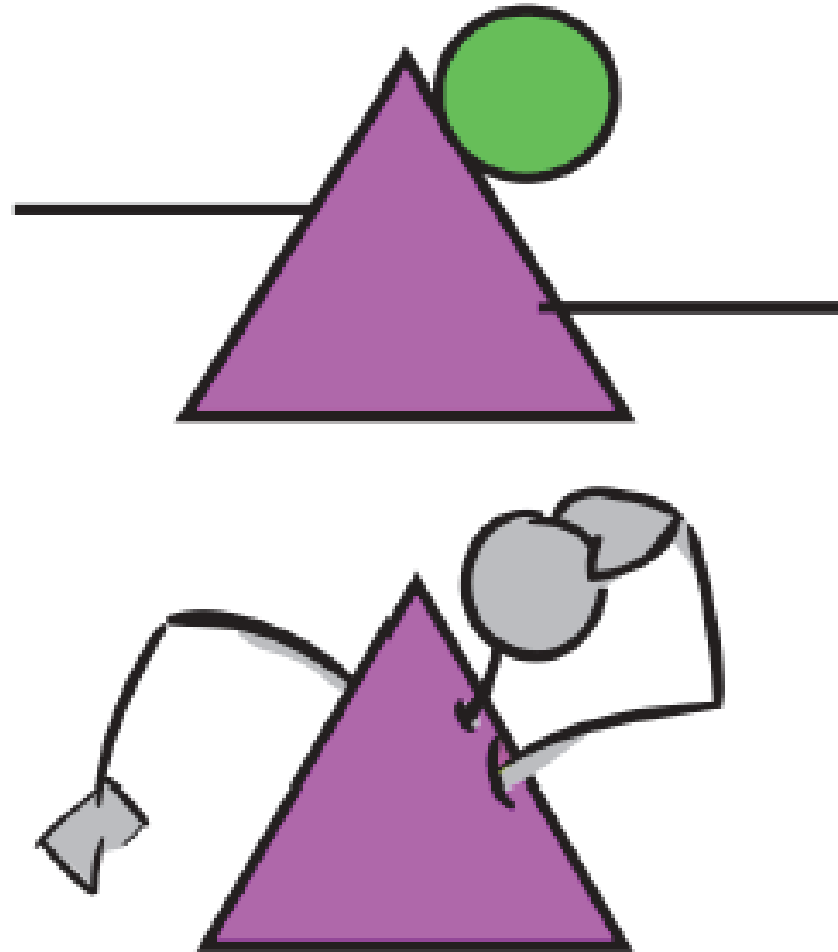# ADD NATURAL FEATURES
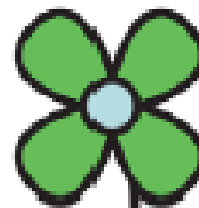
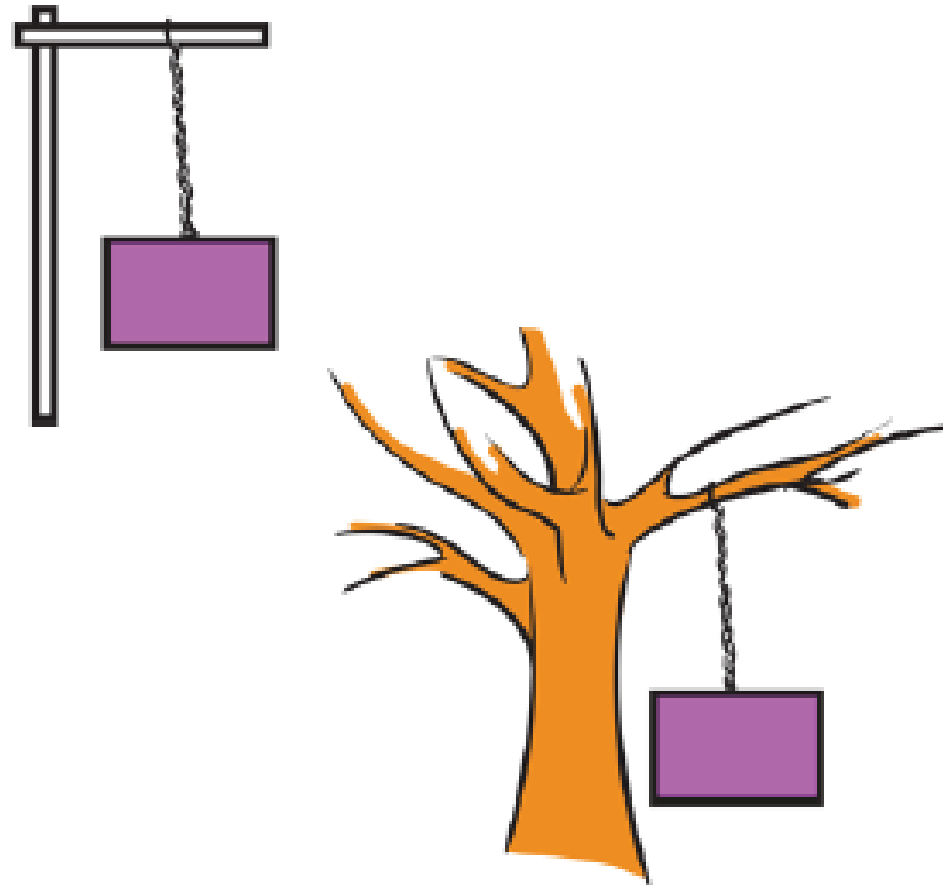Copy something from nature.

DH3

ANIMATE

Give the design life-like features.

DH12

INCORPORATE ENVIRONMENT
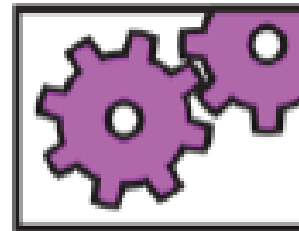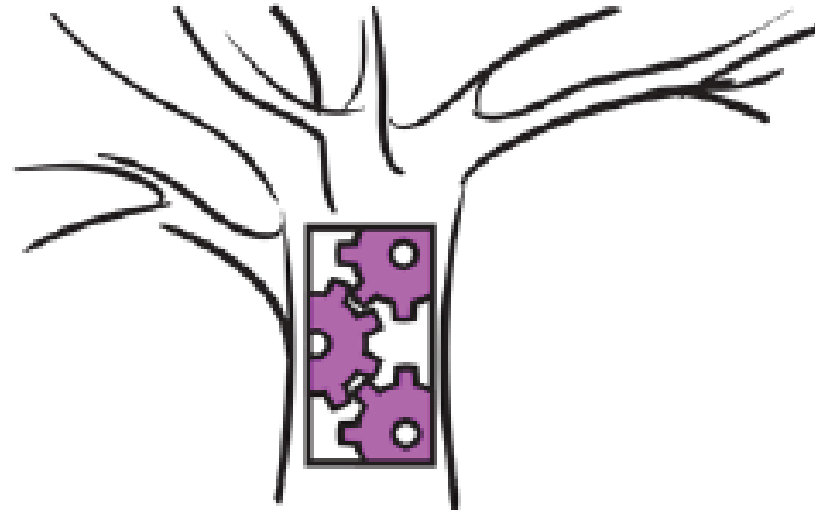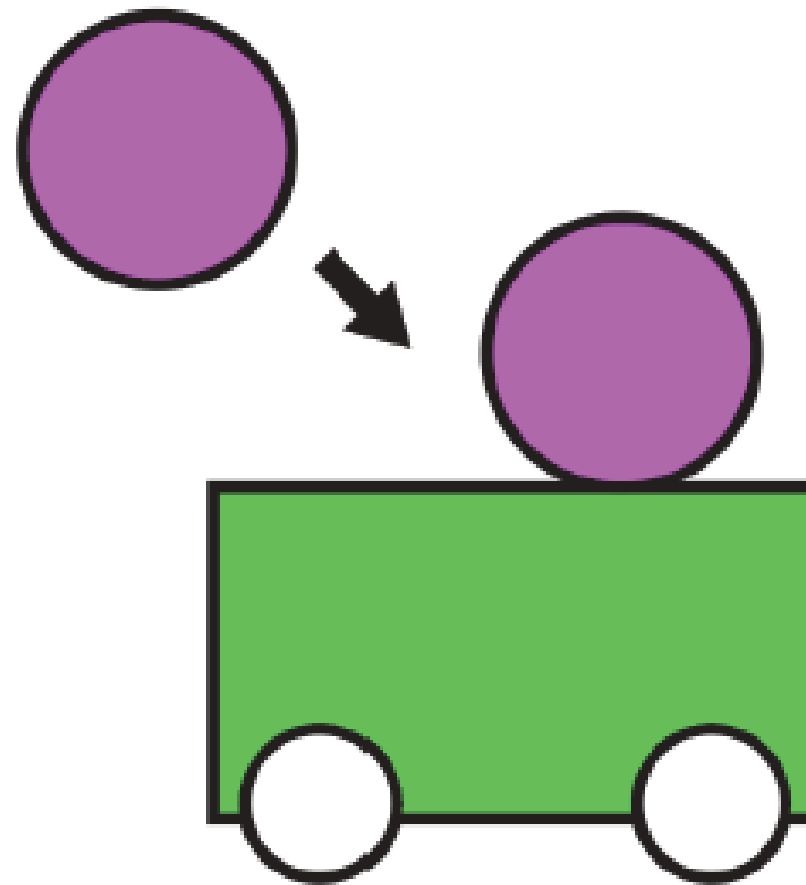

Include what is around you in the design.
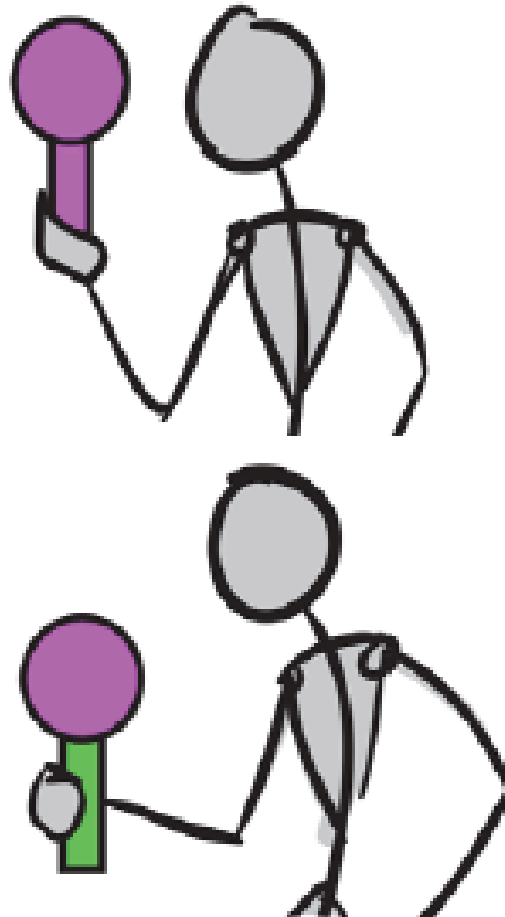
DH39

MIMIC NATURAL MECHANISMS

Copy or mimic
natures processes.

DH46

ADD TO EXISTING PRODUCT
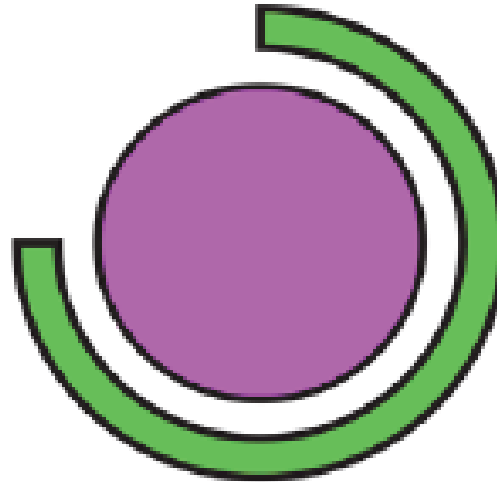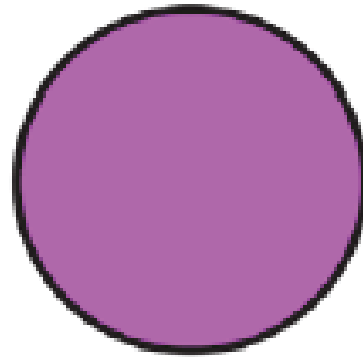
Join your design to something that already exists.

DH4

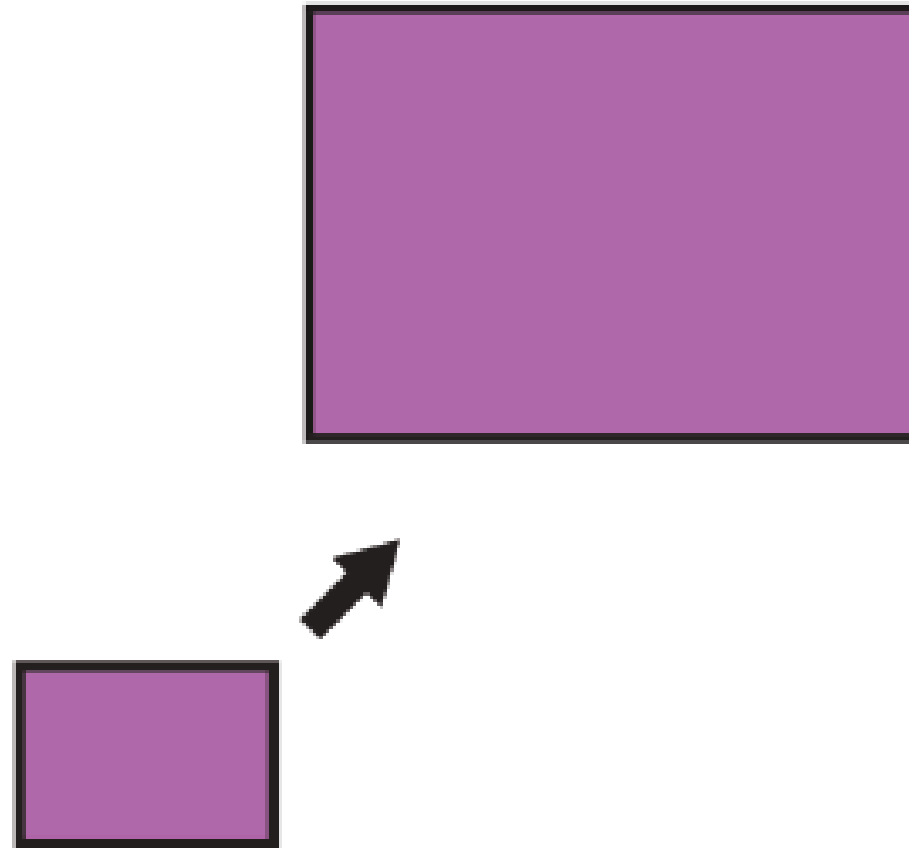# CHANGE SURFACE PROPERTIES

Change the material on the surface.

DH22

IDEAShub
TOOLS FOR CREATIVE IDEAS

COVER OR WRAP

Add an external layer.

DH27

SCALE UP OR DOWN

Make the design available in smaller or larger sizes.

DH58

IDEAShub
TOOLS FOR CREATIVE IDEAS
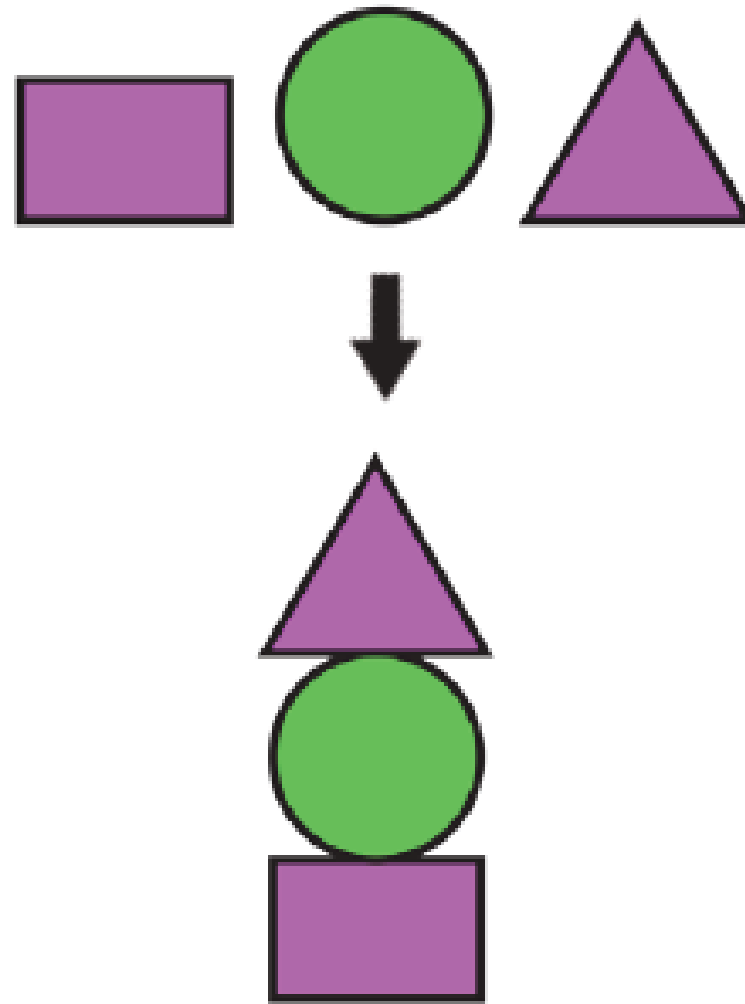
STACK

Allow the different parts or designs to be stacked.

DH62

IDEAShub

TOOLS FOR CREATIVE IDEAS

TWIST

Twist or turn a part of the
design.

DH66

USE MULTIPLE COMPONENTS FOR ONE FUNCTION
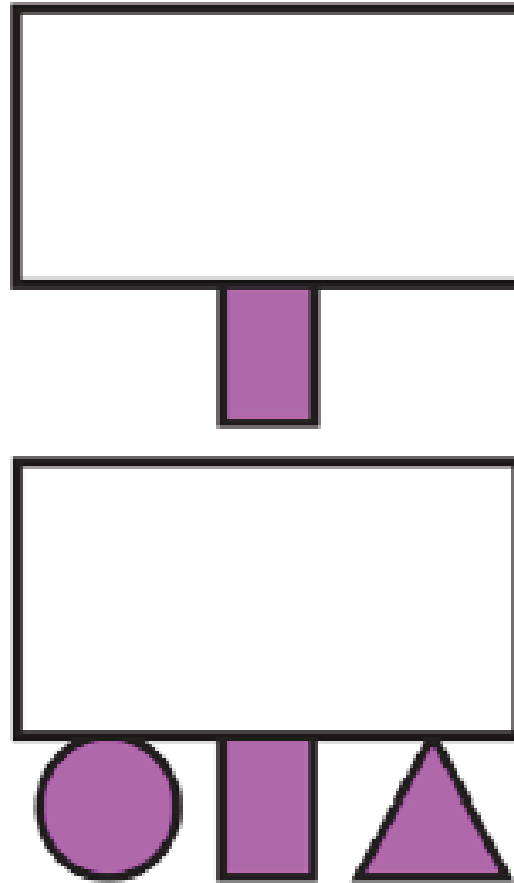
Allow different parts serve one use.

DH72

ADD LEVELS

Increase levels or graduated changes in the form or function.

DH1

BEND

Change the shape
by folding or
bending.   DH16

CHANGE FLEXIBILITY
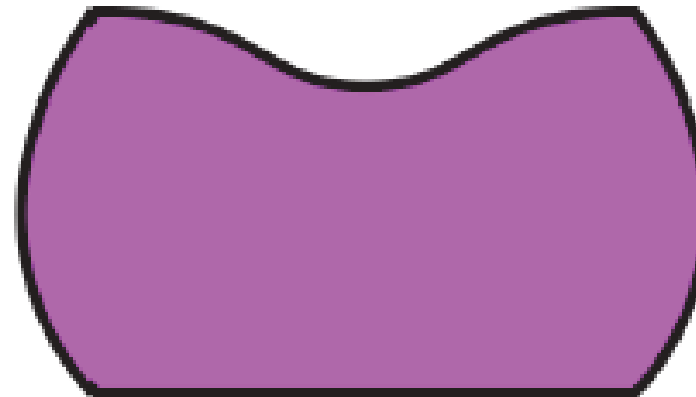
Change the design so it has more or less movement.   DH19

IDEAShub
TOOLS FOR CREATIVE IDEAS

EXPAND OR COLLAPSE
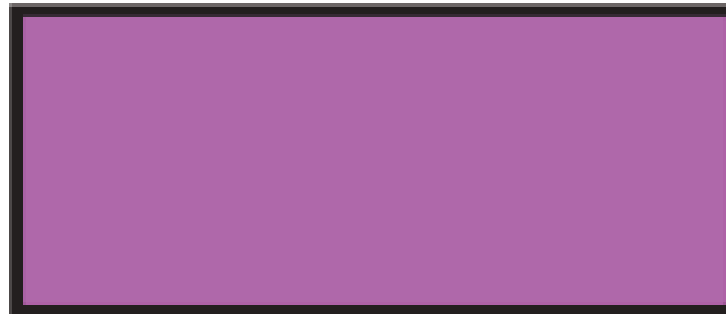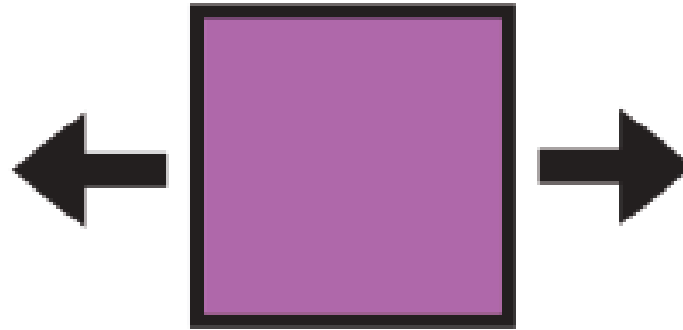
Make bigger or smaller.

DH32

IDEAShub
TOOLS FOR CREATIVE IDEAS

FLATTEN

Level or even out a part
of your design.

DH35

IDEAShub
TOOLS FOR CREATIVE IDEAS

MERGE SURFACES
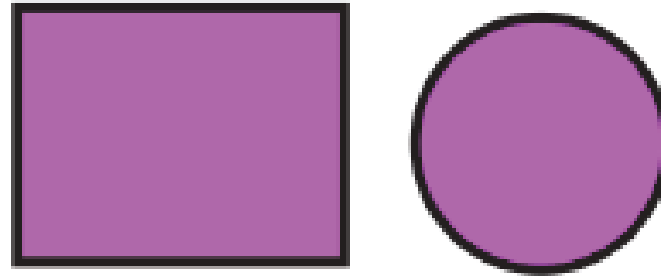
Join surfaces.

DH45

SIMPLIFY
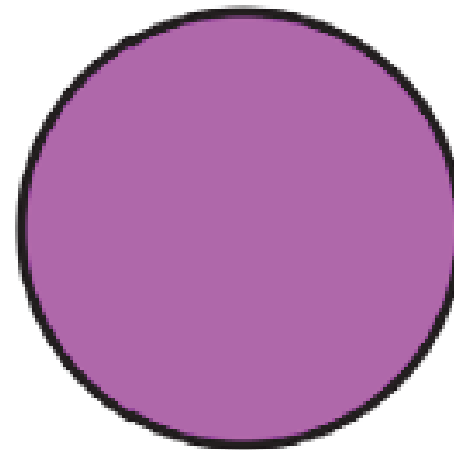
Make it simple. Remove the unnecessary frills.

DH60

CHANGE GEOMETRY
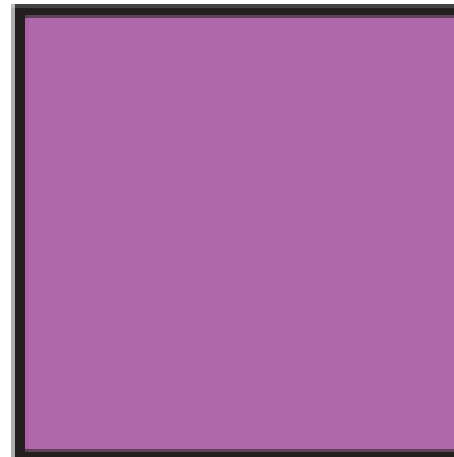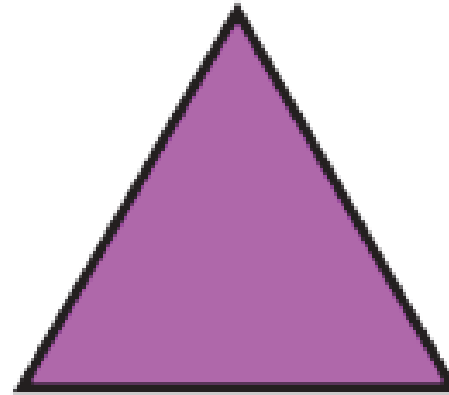
Change the shape or form of the design.

DH20

IDEAShub
TOOLS FOR CREATIVE IDEAS

UTILISE INNER SPACE
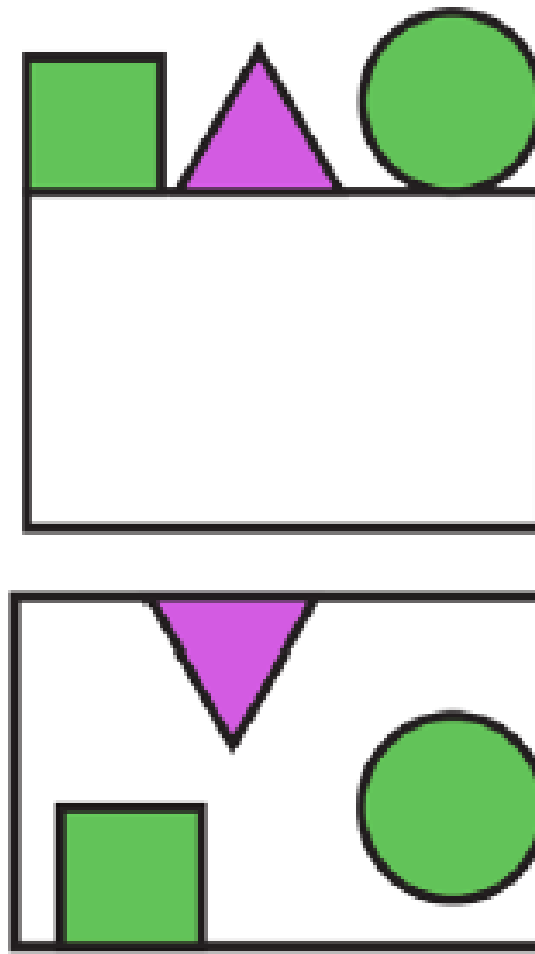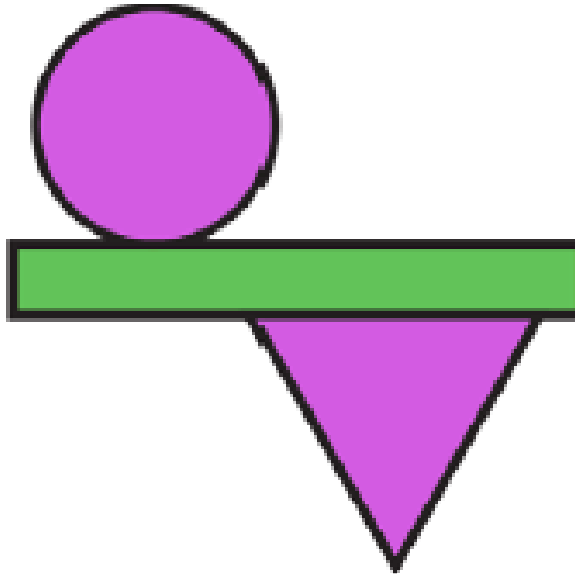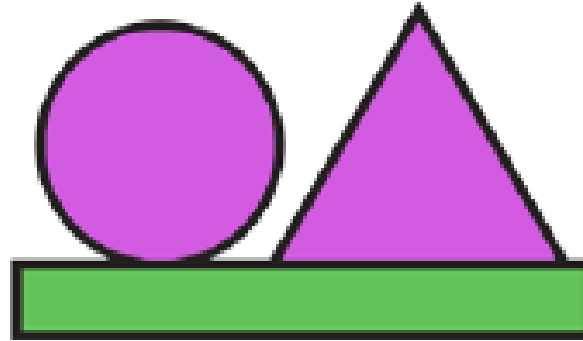
Make use of the inside of the design.

DH75

UTILISE OPPOSITE SURFACE

Make use of another side/surface of the deisgn.

DH76

ADJUST FUNCTIONS FOR SPECIFIC USERS

Change the design based on the needs of the user.

DH6
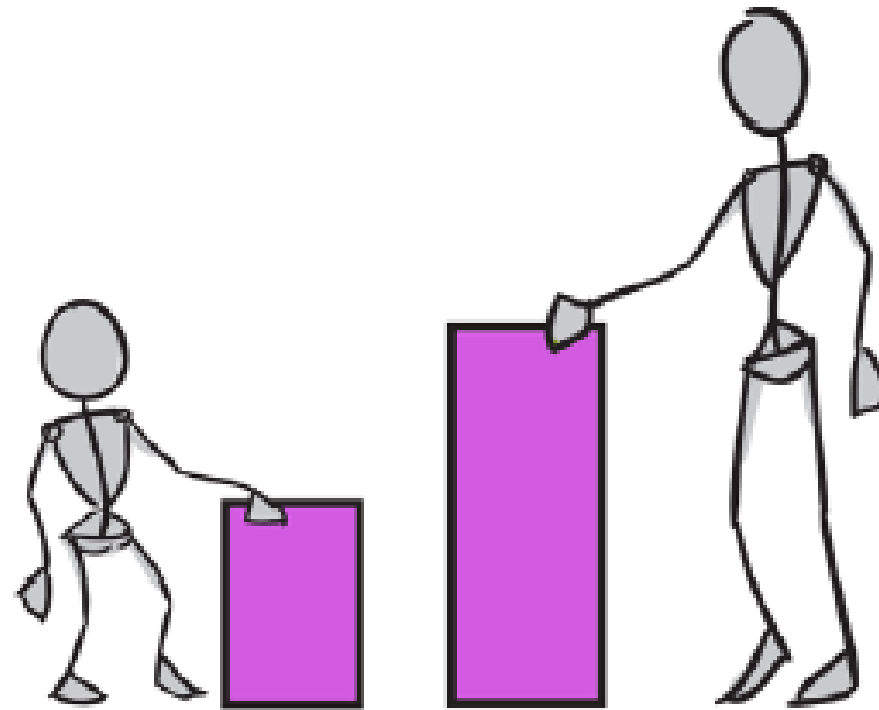
ALLOW USER TO ASSEMBLE
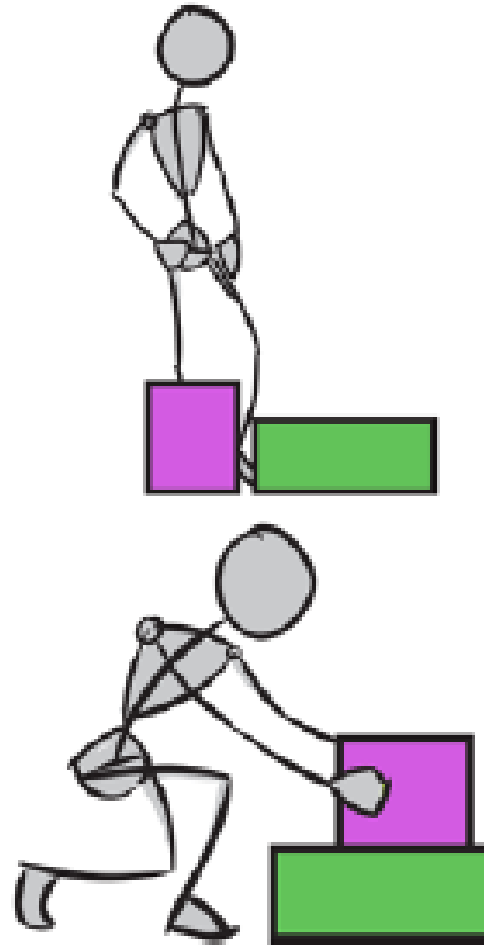
Allow the user put the design together.

DH8

ALLOW USER TO CUSTOMISE
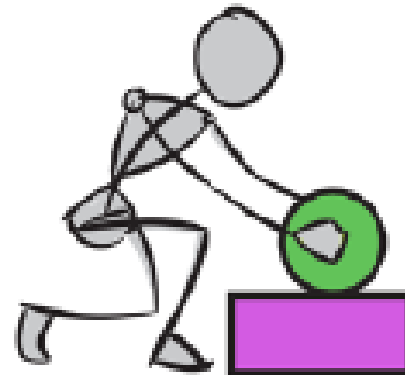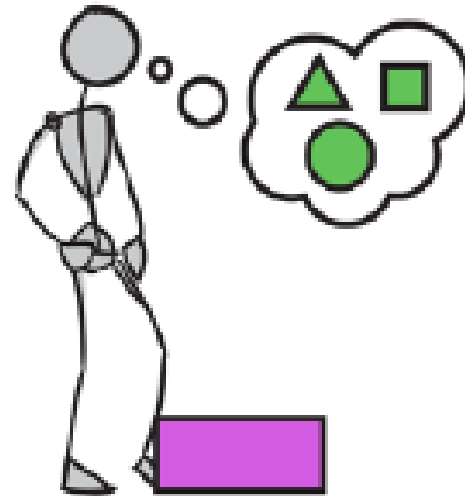
Let the user personalise part of the design.

DH9
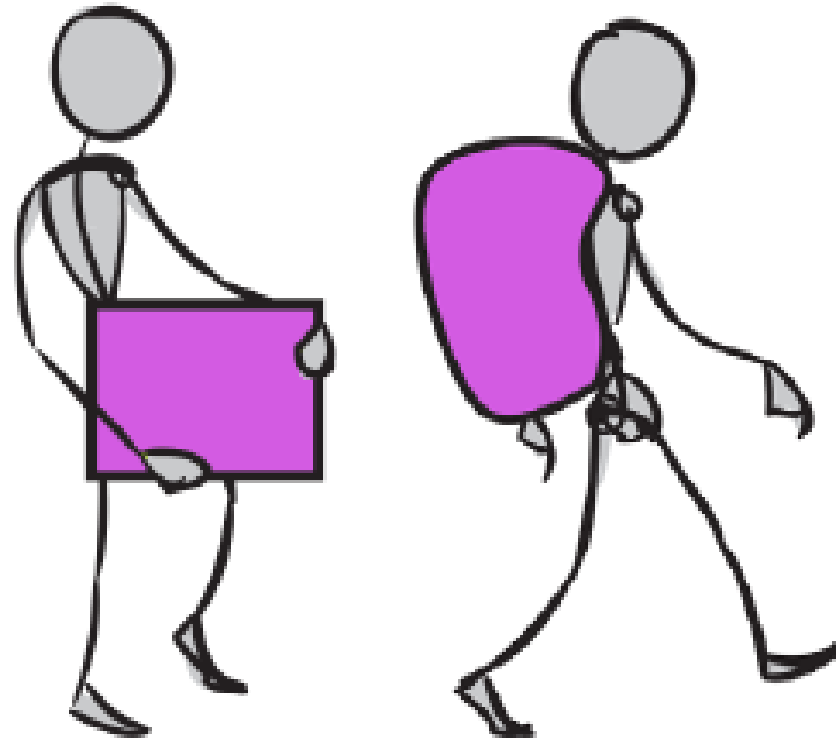
ALLOW USER TO REARRANGE
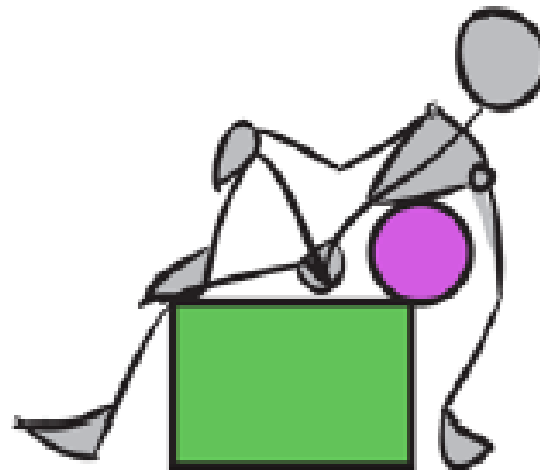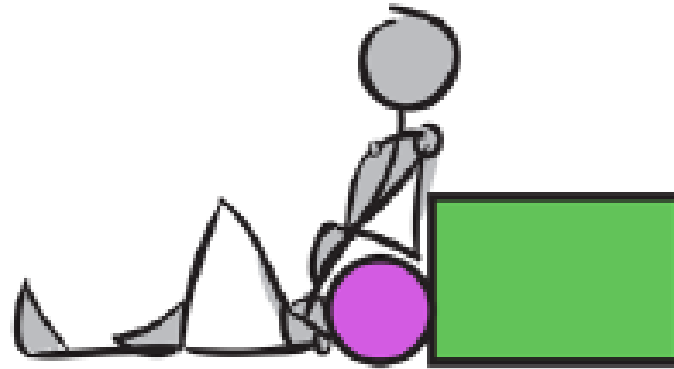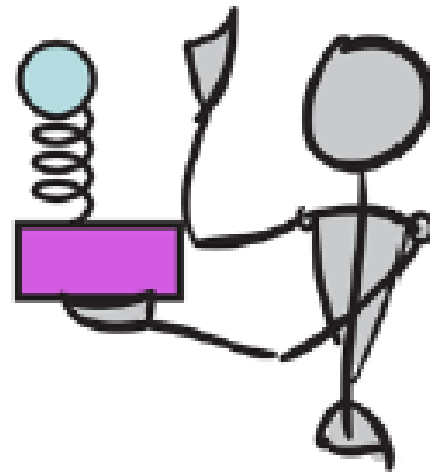
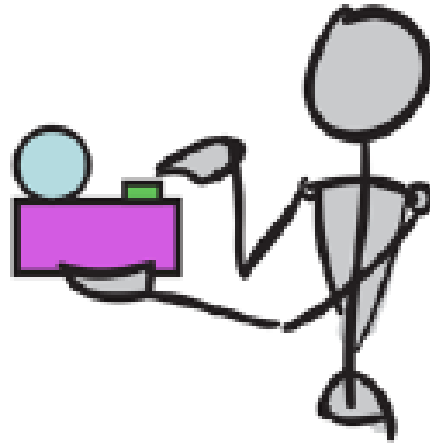Let the user move or rearragnge parts of the design.

DH10

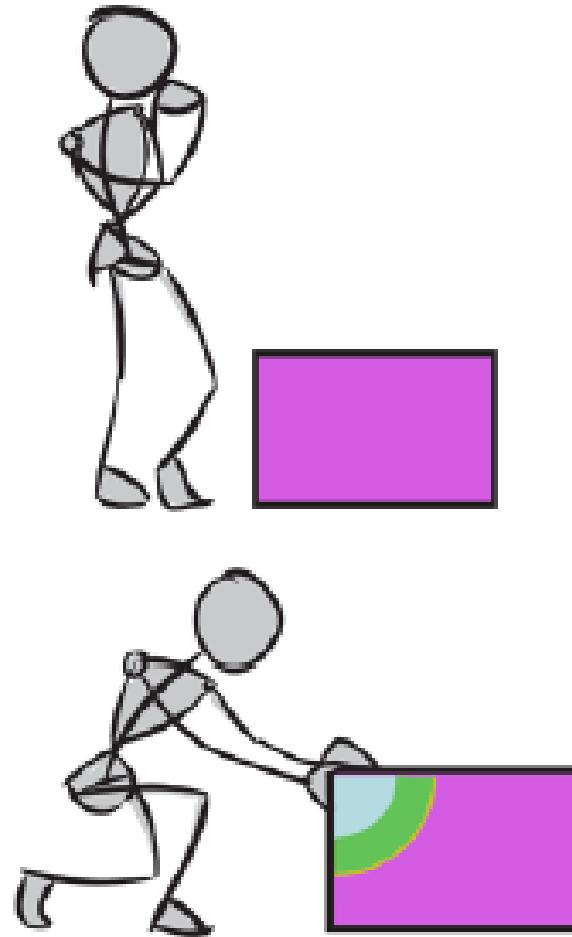# ATTACH PRODUCT TO USER

Join the user and the design.

DH15

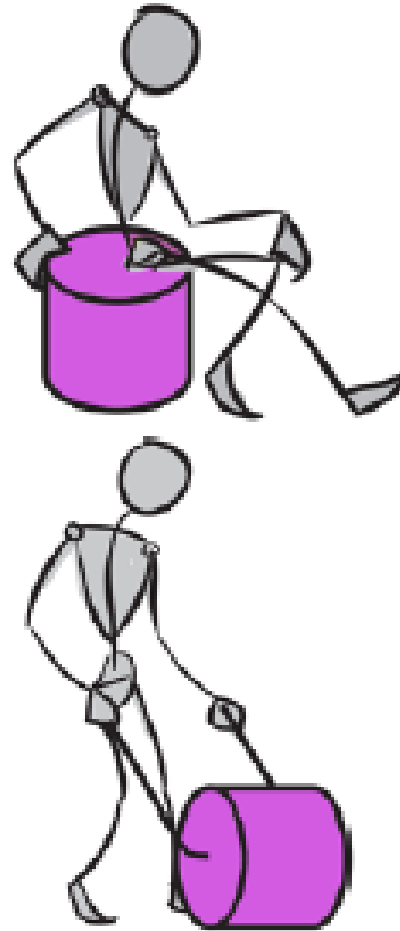# INCORPORATE USER INPUT

Include the user's wants and wishes.

DH40

PROVIDE SENSORY FEEDBACK

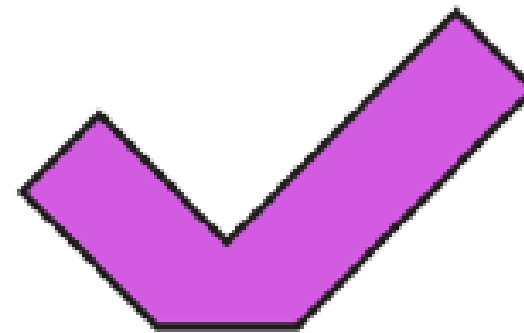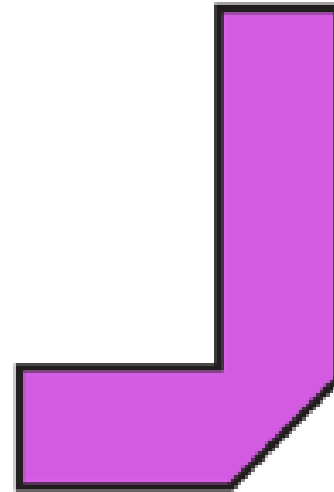Allow the design to guide the user by giving feedback.

DH50

APPLY EXISTING MECHANISM IN A NEW WAY

Use an existing design in a new way.

DH13

CONVERT FOR SECOND FUNCTION

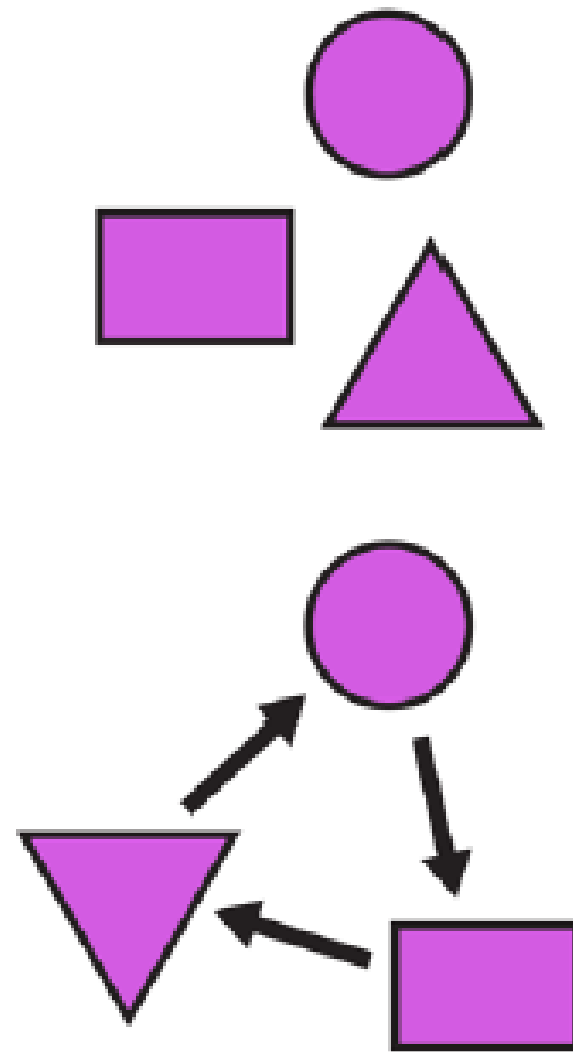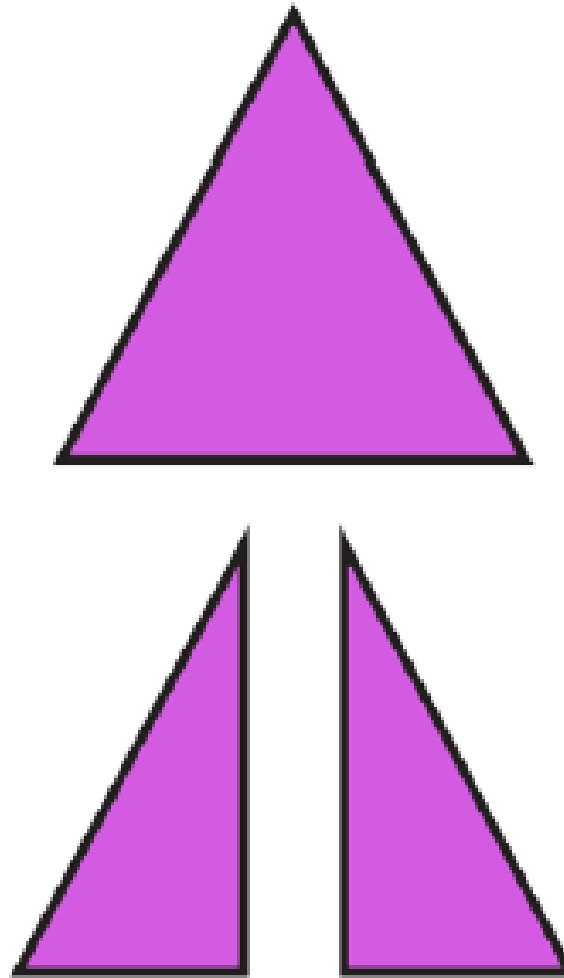Change the design so it has more than one use.

DH26

CREATE SYSTEM

Develop a set of designs
that work together.

DH29

SEPARATE FUNCTIONS

Divide the use(s) of the design.

DH59

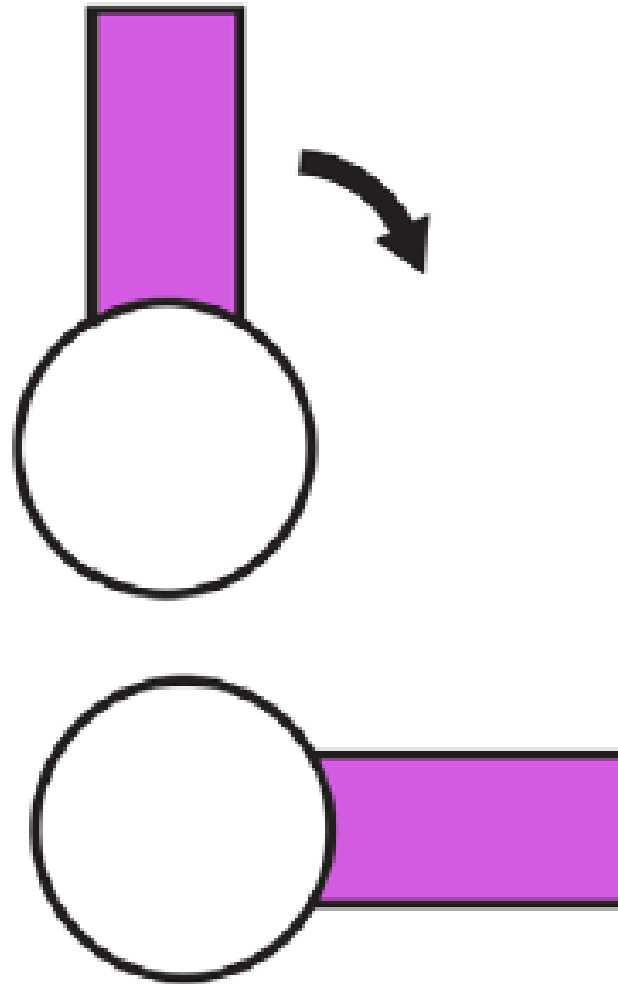# ADD MOTION
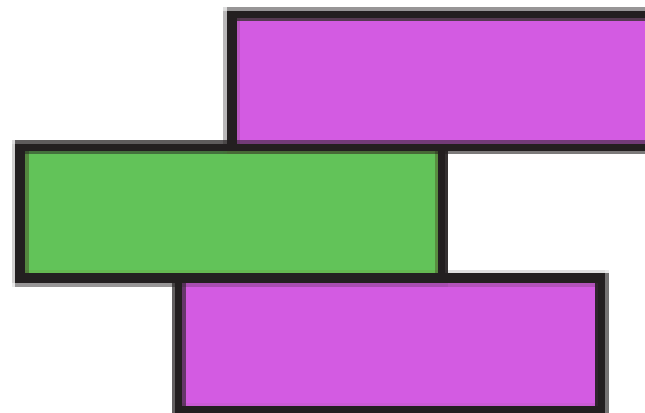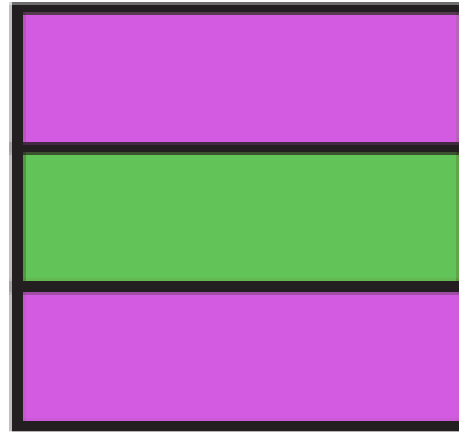
Change the design so it moves in some way.

DH2

ROTATE

Move part of the design
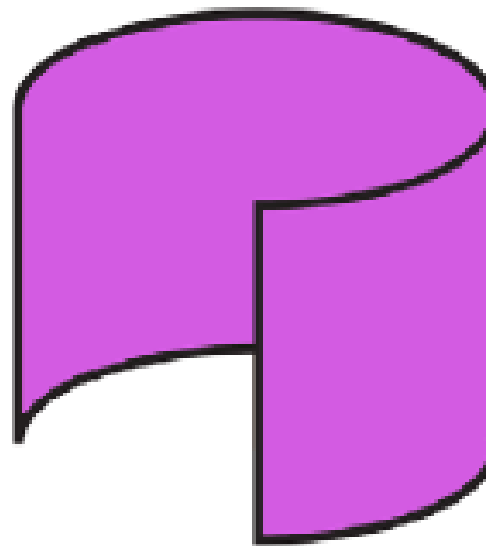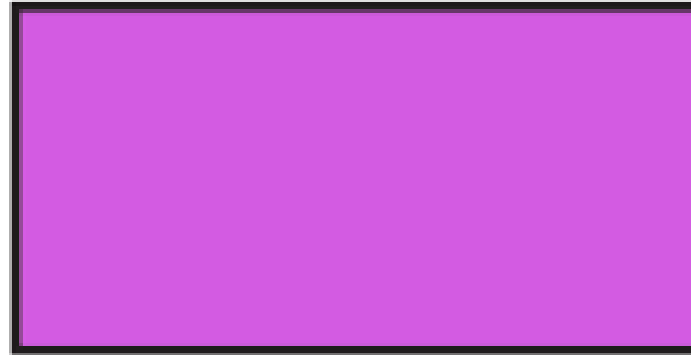around another part.
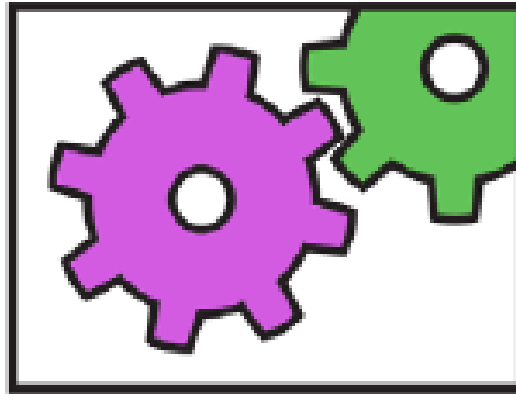
DH57

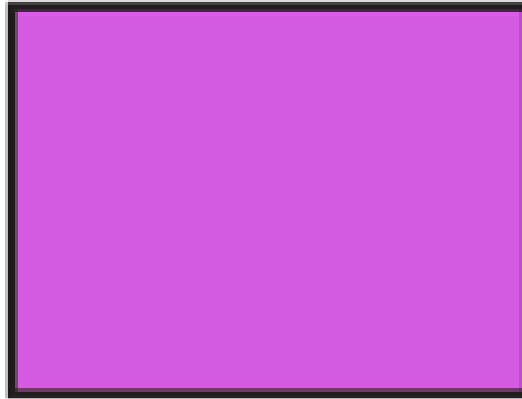# SLIDE

Move one part across another part.

DH61

CONVERT 2-D MATERIAL INTO A 3-D OBJECT

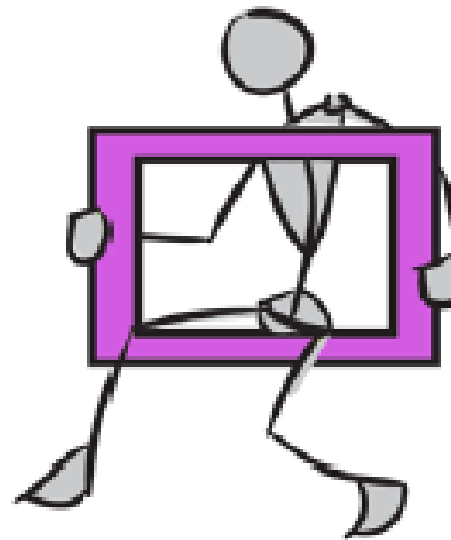Change the design so it could be made from a flat surface. DH25
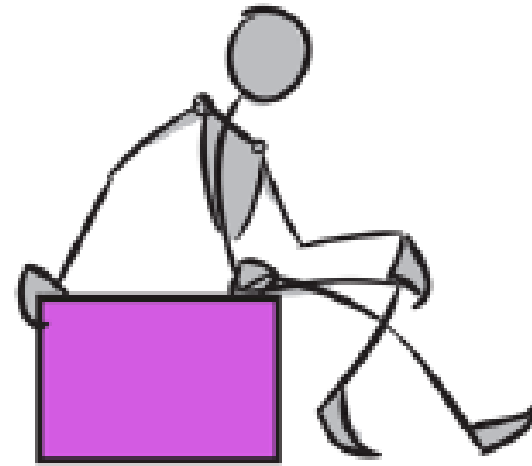
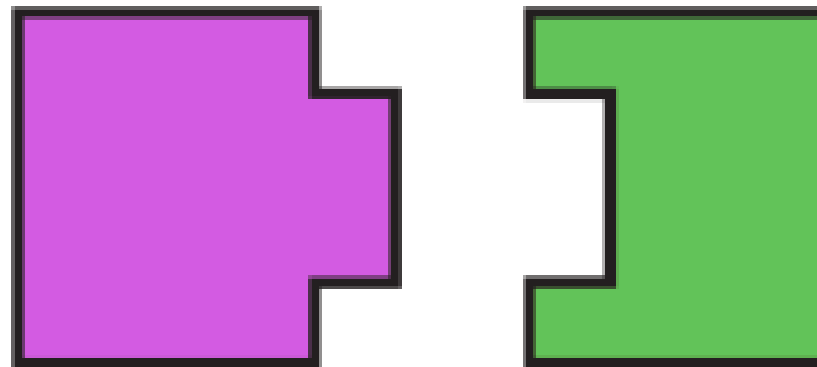# EXPOSE INTERIOR

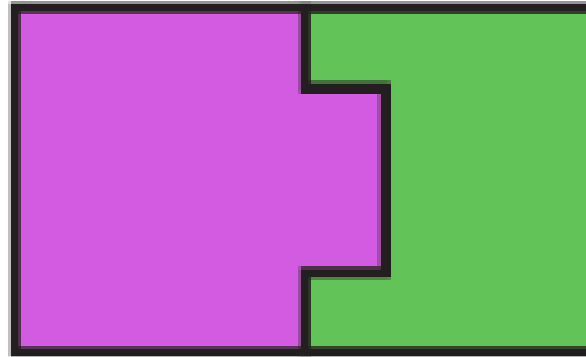Show the inside of the design.

DH33

HOLLOW OUT

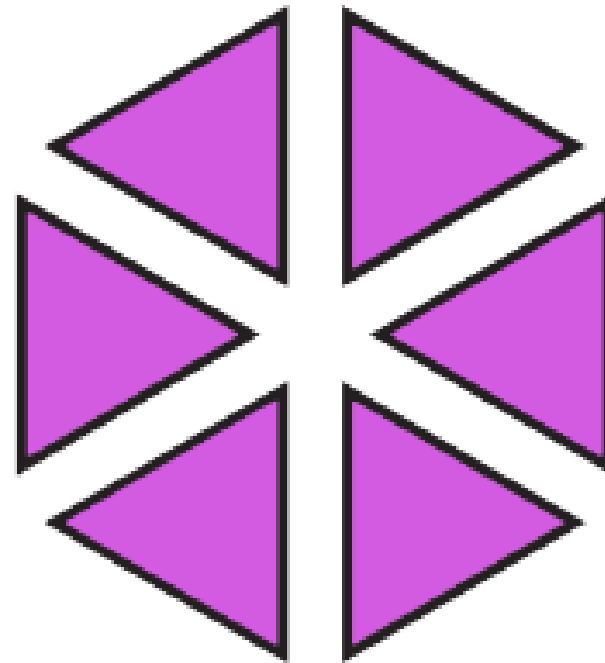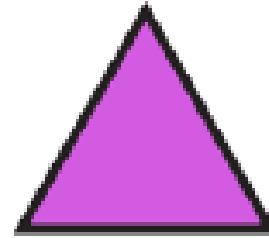Remove the inside of the
design's parts.

DH37

MAKE COMPONENTS ATTACHABLE OR DETACHABLE

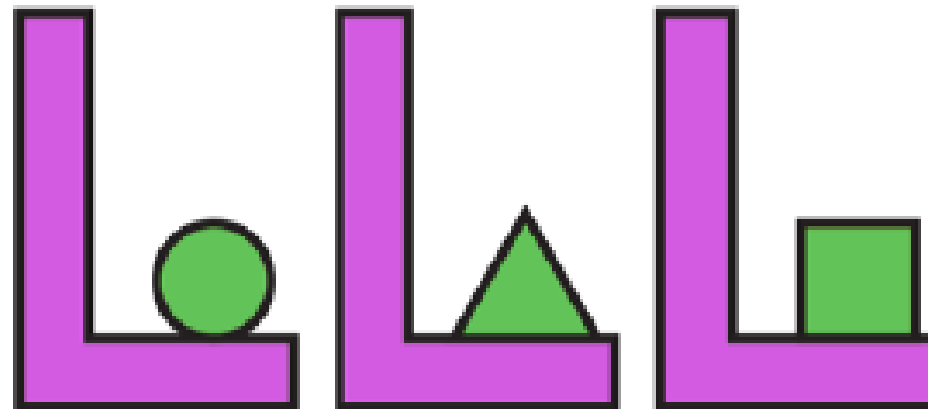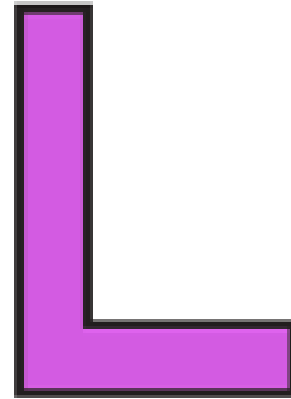Join or take apart the design.
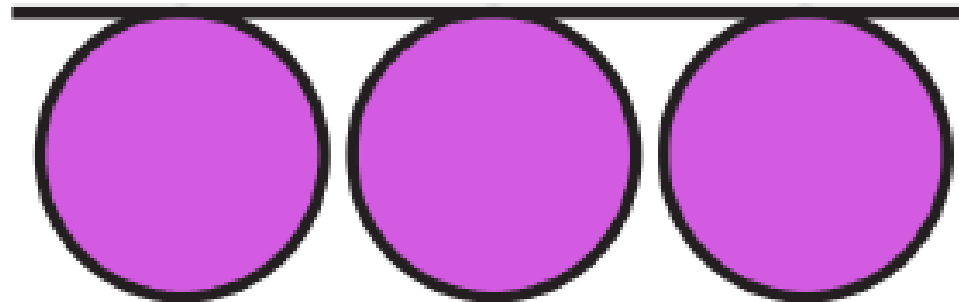
DH42

MIRROR/ARRAY

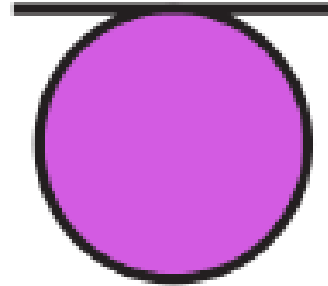
Start or continue a pattern.

DH47

OFFER OPTIONAL COMPONENTS

Add choice of parts.

DH49

REPEAT

Copy a part of the
design.
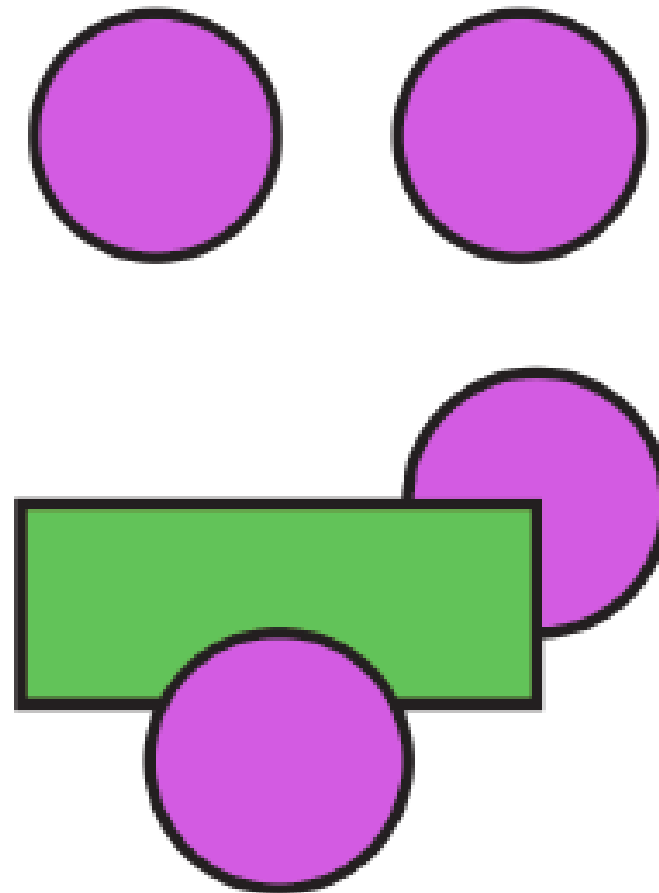
DH54

USE COMMON BASE TO HOLD COMPONENTS

Add a base that support other parts.

DH68

For further resources please go to

www.ideashub.eu