

Design and make a moving picture to illustrate your favourite story



Name	Class	Date
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Investigating moving pictures

Look at the moving pictures you have been given.

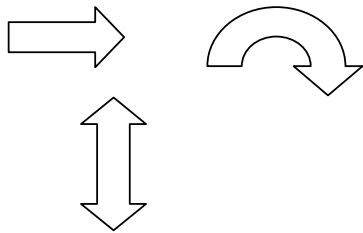
Draw a:

1. sliding mechanism
2. lever mechanism

Label:

1. lever
2. pivot
3. slider

Use arrows to show the direction the parts move in.



Sliding mechanism

Lever mechanism

Designing

Design criteria

I am going to design and make a moving picture for my friend.

I want my picture to:

1. illustrate _____ (title of story)

2. _____

3. _____

4. _____

5. _____

Make a model of your moving picture in paper or card. Stick the model or a photograph of it here.

Planning

What will you need to make your design?

List it here:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

pencil	needle	glue	paper drill
saw	dowel rod	pegs	crayons
cotton reels	cardboard box	card	hole punch
paper fastener	card	mixing bowl	cotton
scissors	adhesive tape	cutting mat	paper clip

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

1. _____
2. _____
3. _____
4. _____
5. _____

How well does your picture do each of these things?



What do you think about your design overall?



Design and make a model of a piece of playground equipment



Name	Class	Date
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Investigating playgrounds - 1

Draw two (or more) pieces of playground equipment that you have seen.

1. Label the materials it is made from (eg metal, plastic, wood, rubber, rope).
2. Try and show:
 - how the parts are joined together
 - why the equipment does not fall over.

A	Joined parts
	Why does it not fall over?

Investigating playgrounds - 2

B	Joined parts
	Why does it not fall over?

Designing

Design criteria

As a class we are going to design and make a playground for 'Playmobile' people.

I am going to design and make a _____

I want my model to:

6. _____

7. _____

8. _____

9. _____

10. _____

Make a model of your piece of playground equipment. Stick a photograph of it here. Try and show how you have:

1. joined the parts together
2. made sure your model will stand up.

Planning

What will you need to make your design?

List it here:

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

wooden wheels	needle	glue	paper drill
pipe cleaners	dowel rod	pegs	stapler
cotton reels	cardboard box	card	hole punch
plasticene	card	paint	string
scissors	adhesive tape	art straws	paper clip

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

6. _____

7. _____

8. _____

9. _____

10. _____

How well does your model do each of these things?



What do you think about your design overall?

Design and make a fruit salad for a party



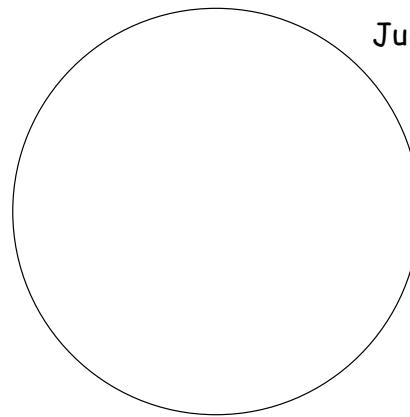
Name	Class	Date
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Investigating fruit - 1

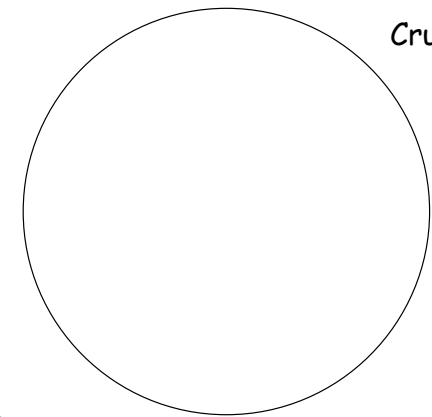
The fruits we looked at were (list):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

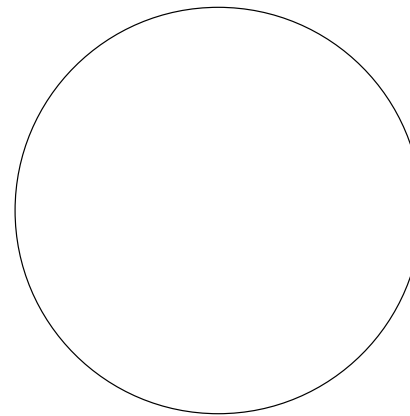
We sorted the fruit into groups. Some fruits fitted into more than one group.



Juicy



Crunchy



Soft

Investigating fruit - 2

Describe the fruits you have tasted in the spaces below.				
Name of fruit	Colour	Taste	Texture	Picture
1				
2				
3				
4				
5				
6				
Word bank	yellow, green, red, orange, yellow, brown, speckled	juicy, sweet, sour	crisp, crunchy, hard, soft	

Designing

Design criteria

I am going to design and make a fruit salad for a party at the end of 'Health Week.'

I want my salad to:

11. _____

12. _____

13. _____

14. _____

15. _____

Draw the fruits you will use or stick in pictures.

Planning

Shopping list		Equipment	
1		1	
2		2	
3		3	
4		4	
5		5	
apple	orange	knife	grater
pear	grape	board	bowl
cherry	juice	spoon	scissors
strawberry	biscuit	apron	hammer
cream	potato	drill	jug

Evaluating

You said you wanted your salad to be
(copy your design criteria here):

How well does your salad
do each of these things?

11. _____



12. _____



13. _____



14. _____



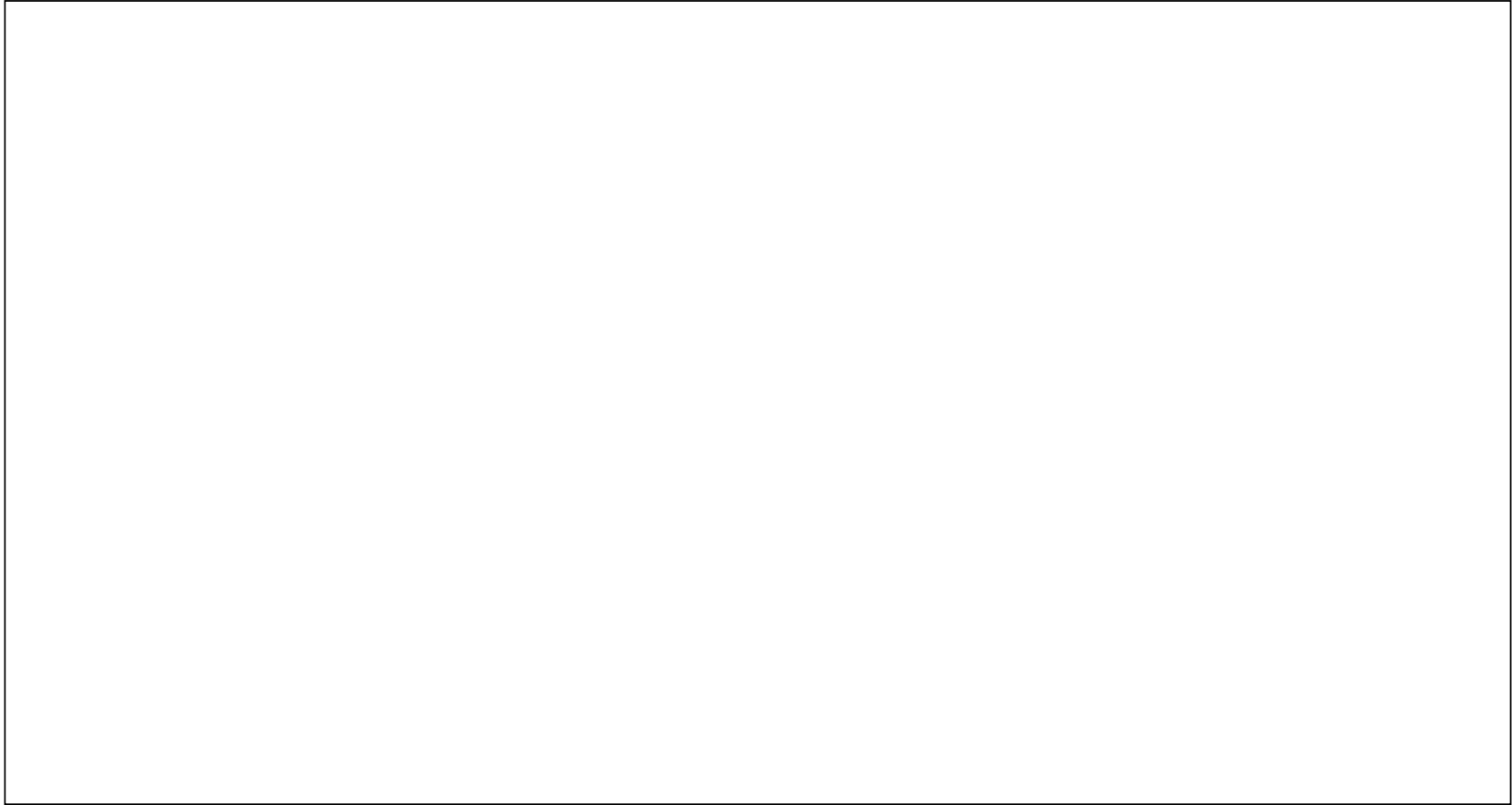
15. _____



What do you think about your salad
overall?



Design and make a home for a _____



Name	Class	Date
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Investigating homes

Draw two (or more) homes that you have seen.

Label the parts and the materials.

Here are some words to help you:

structure	strong	weak
wall	roof	window
glass	brick	wood
transparent	hinge	square
rectangle	triangle	

A

B

Designing

Design criteria

I am going to design and make a home for a

I want the home to:

16. _____

17. _____

18. _____

19. _____

20. _____

Make a model of your idea. Draw it or stick a photograph of it here.
Try and show how you have:

3. joined the parts together
4. made sure your model will stand up.

Planning

What will you need to make your design?

List it here:

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

wooden wheels	needle	glue	paper drill
pipe cleaners	dowel rod	pegs	stapler
cotton reels	cardboard box	card	hole punch
plasticene	card	paint	string
scissors	adhesive tape	art straws	paper clip

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

16. _____

17. _____

18. _____

19. _____

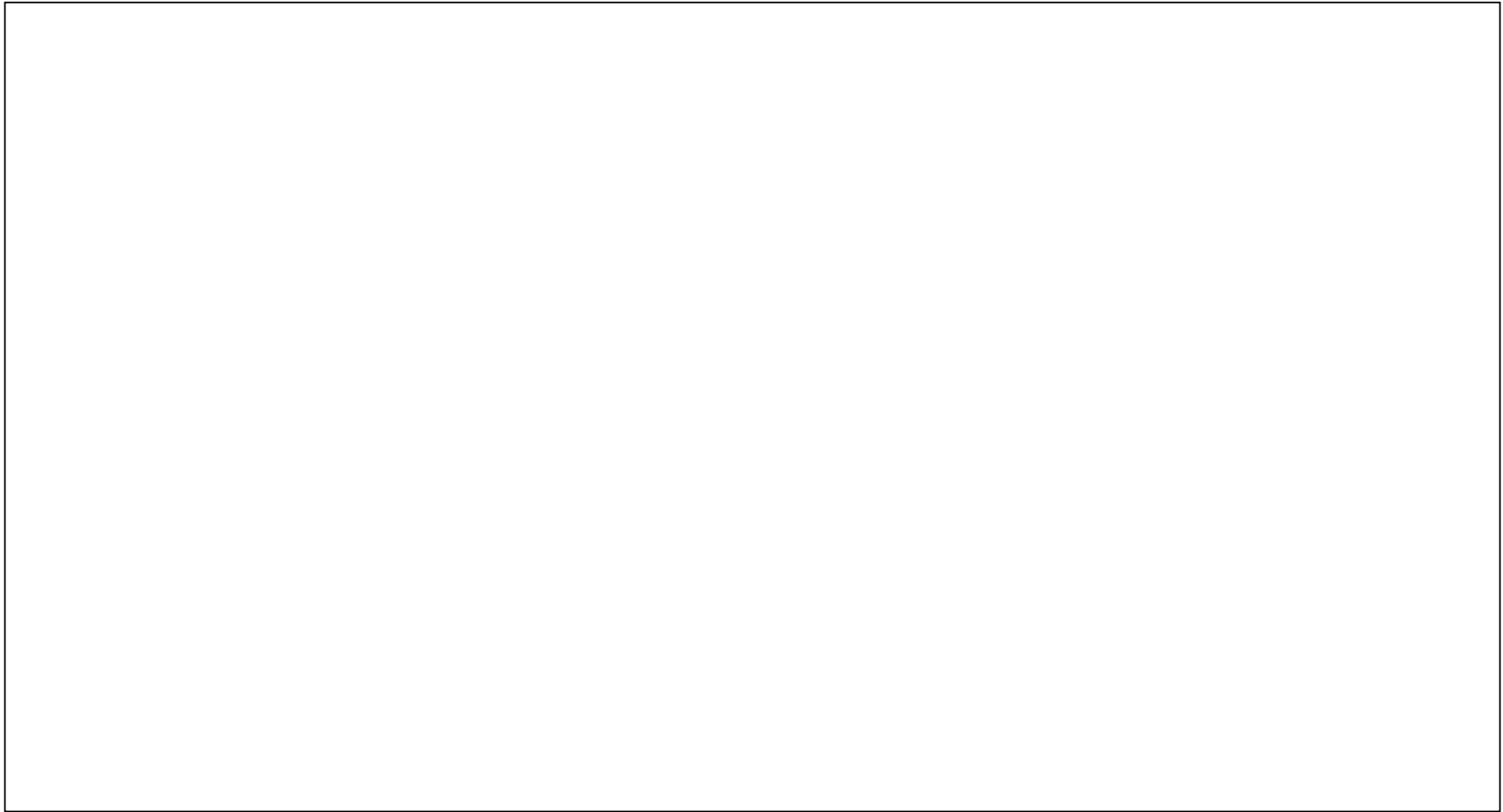
20. _____

How well does your model do each of these things?



What do you think about your design overall?

Design and make a vehicle for Teddy



Name	Class	Date
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Investigating vehicles

Draw one of the toy or model vehicles you have been shown.

Label these parts:

1. wheel
2. axle
3. chassis
4. body
5. cab



Designing

Design criteria

I am going to design and make a vehicle to help Teddy go on a picnic.

I want my vehicle to:

21. _____

22. _____

23. _____

24. _____

25. _____

Make a model of your idea for Teddy's vehicle. Draw it or stick a photograph of it here.

Planning

What will you need to make your design?

List it here:

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

wooden wheels	wood strip	glue	bench hook
saw	dowel rod	pegs	plastic tubing
cotton reels	cardboard box	card	hole punch
scissors	adhesive tape		

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

21. _____

22. _____

23. _____

24. _____

25. _____

How well does your vehicle do each of these things?



What do you think about your design overall?



Design and make a puppet



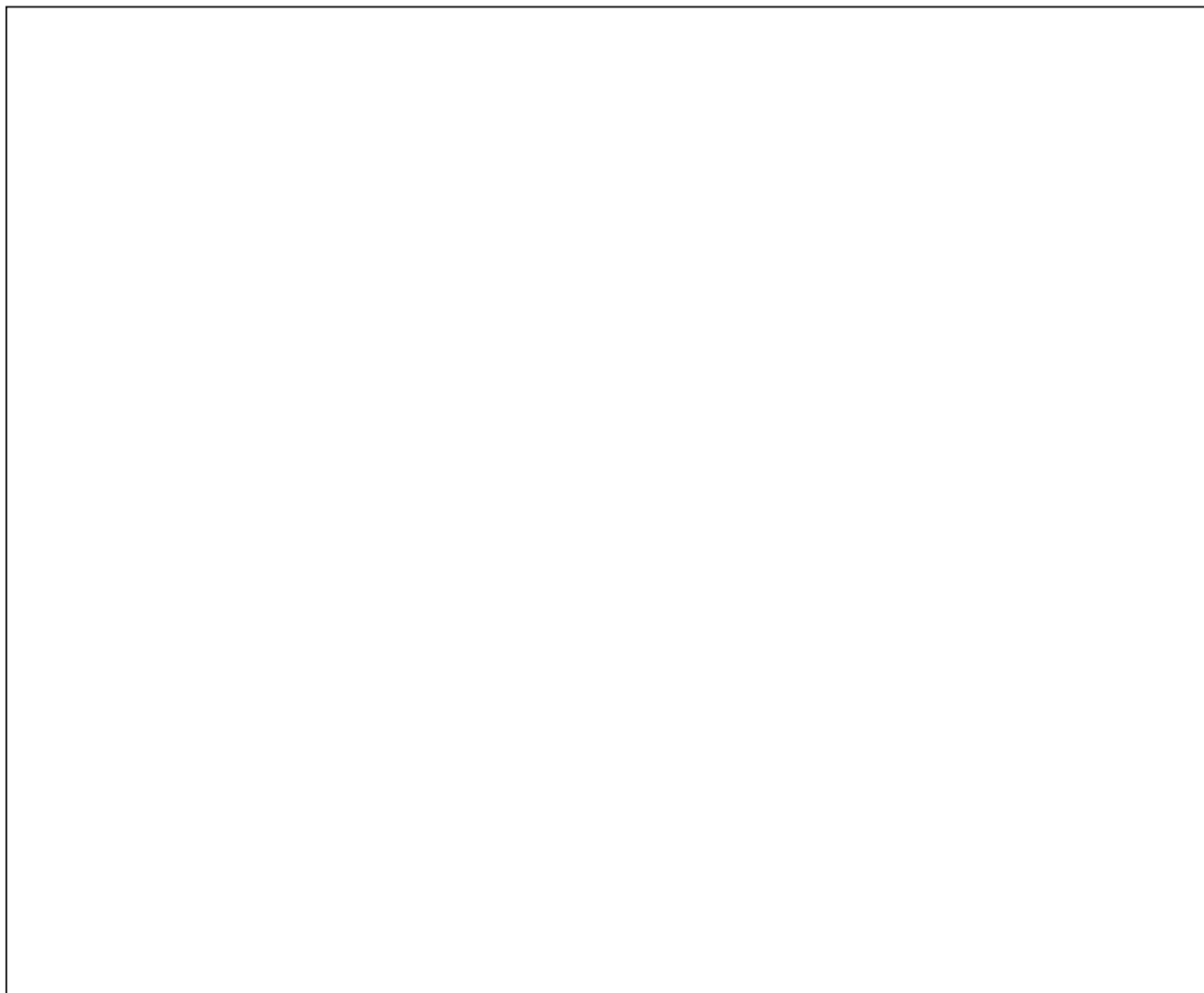
Name	Class	Date
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Investigating puppets

Draw and label one of the puppets you have been shown.

Find out about these things:

6. The materials it is made from.
7. What fabrics have been used?
8. How are the materials joined together?
9. Who is the puppet made for?
10. What are the main features of the puppet?



Designing - 1

Design criteria

I am going to design and make a puppet

(eg. for a show to the Reception class / to illustrate a nursery rhyme /)

I want my vehicle to have:

26. _____

27. _____

28. _____

29. _____

30. _____

A good puppet should _____

Draw one or more designs for your puppet. Make sure you label any important features.

Designing - 2

If you make a paper pattern or template stick it here.

These are the materials I will use (list or stick samples of the fabrics here):

Planning

What will you need to make your puppet?

List it here:

25. _____

26. _____

27. _____

28. _____

29. _____

30. _____

fabric	sock	felt pens	sequins
beads	yoghurt pot	glue	needle
thread	paper plate	pegs	plastic tubing
cotton reels	cardboard box	card	hole punch
scissors	adhesive tape	stapler	dowel rod

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

26. _____

27. _____

28. _____

29. _____

30. _____

How well does your puppet do each of these things?



What do you think about your design overall?



Design and make a mechanism to rescue Pussy from the well



Name	Class	Date
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Investigating winding toys

Draw one of the winding toys or models you have been shown.

Label these parts:

11. wheel

12. axle

13. hook

14. handle

15. supports

16. bucket

17. pulley



Designing

Design criteria

I am going to design and make a mechanism to rescue Pussy from the well.

I want my model to:

31. _____

32. _____

33. _____

34. _____

35. _____

Make a model of your idea. Draw it or stick a photograph of it here.

Planning

What will you need to make your design?

List it here:

31. _____

32. _____

33. _____

34. _____

35. _____

36. _____

string	wool	thread	card tube
wheels	wood strip	glue	bench hook
saw	dowel rod	pegs	plastic tubing
cotton reels	cardboard box	card	hole punch
scissors	adhesive tape	plastic bottle	cardboard

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

31. _____

32. _____

33. _____

34. _____

35. _____

How well does your design do each of these things?



What do you think about your design overall?



Design and make a coat for Joseph



Name	Class	Date
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Investigating joining materials

Draw some of the ways in which materials have been joined eg:

1. sewing
2. gluing
3. stapling
4. string

(Or stick samples onto this sheet).



Designing

Design criteria

I am going to design and make a coat of many colours for Joseph.

I want my coat to:

36. _____

37. _____

38. _____

39. _____

40. _____

Use a drawing or paint program on the computer to draw a design for Joseph's coat.
Print it out and stick it here.

Designing - 2

If you make a paper pattern or template stick it here.

These are the materials I will use (list or stick samples of the fabrics here):

Planning

What will you need to make your coat?

List it here:

37. _____

38. _____

39. _____

40. _____

41. _____

42. _____

fabric	computer	felt pens	sequins
beads	yoghurt pot	glue	needle
thread	paper plate	pins	plastic tubing
cotton reels	cardboard box	card	hole punch
scissors	adhesive tape	stapler	dowel rod

Evaluating

You said you wanted your design to do these things

(copy your design criteria here):

36. _____

37. _____

38. _____

39. _____

40. _____

How well does your coat do each of these things?



What do you think about your design overall?



Design and make a package for a healthy snack



Name	Class	Date
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Investigating packaging - 1

Draw four different packages. Next to each drawing sketch what you think the net of each package would be.

Package 1	Net 1	Package 2	Net 2
Package 3	Net 3	Package 4	Net 4

Investigating packaging - 2

Choose one of your packages
and carefully take it apart.

Draw the net here.

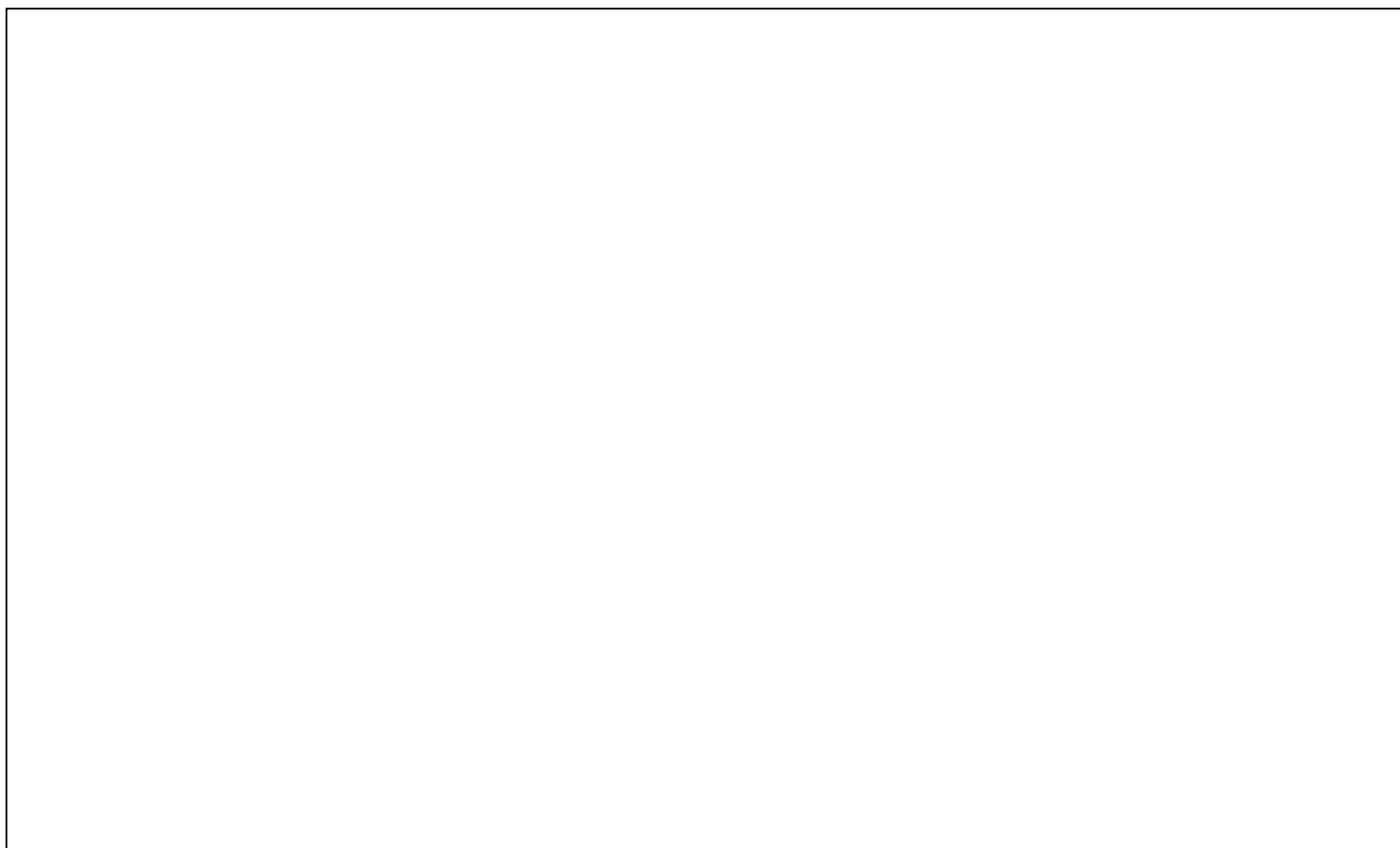
What shape is your package?



Investigating packaging – 3

Look at several different packages. Choose the one you find most appealing. Why did you choose it?

Draw your package here.
Remember to include the
writing, the colours and any
pictures or graphics.



Designing – generating ideas

Design criteria

I am going to design and make a package to take a healthy snack on a picnic. The package needs to:

41. _____

42. _____

43. _____

44. _____

45. _____

Draw and label your ideas here.

Designing – developing ideas

Choose your best idea and then show by drawing and labelling:

1. The net.
2. The information you will put on the outside of the package.
3. How the contents will be protected.

Planning

What will you need to make your design?

List it here:

43. _____

44. _____

45. _____

46. _____

47. _____

48. _____

net	cube	cuboid	rule
pencil	squared paper	card	paper
paint	cardboard box	paper clips	cardboard
scissors	adhesive tape	paper drill	cutting mat
glue gun			

Write down the order you will do things in when you make your package.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

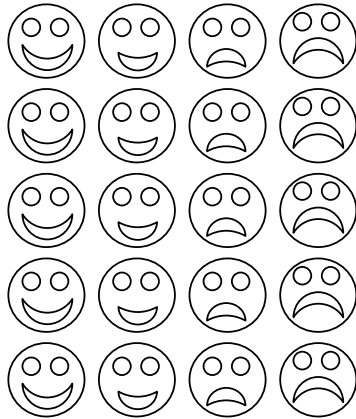
10. _____

Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

- 41. _____
- 42. _____
- 43. _____
- 44. _____
- 45. _____

How well does your package do each of these things?



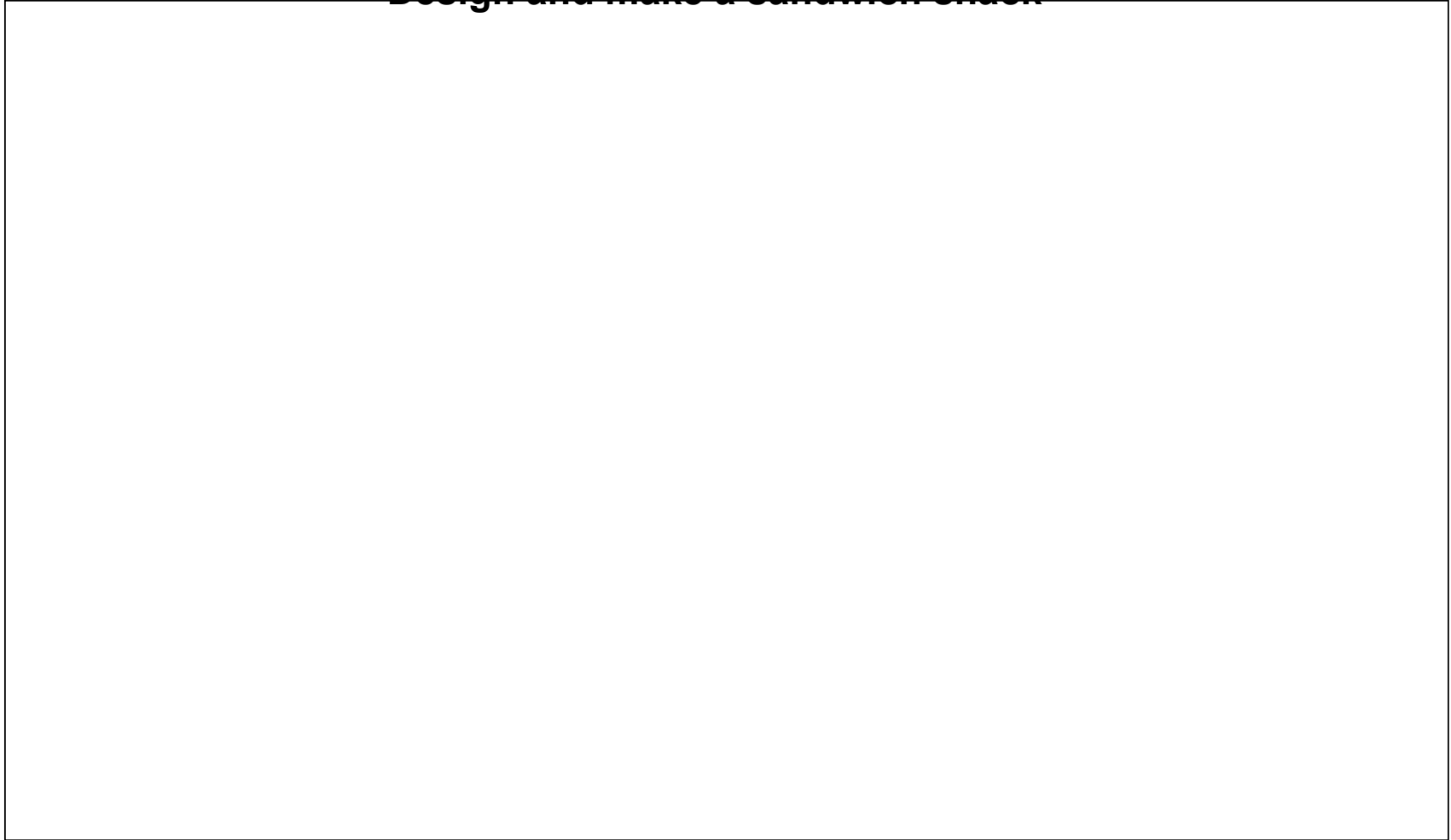
What do you think about your design overall?



How did you test your design?

How could your package be made better?

Design and make a sandwich snack



Name	Class	Date
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Investigating sandwiches

Taste tests

Taste the 4 sandwiches provided and record your results in the table below.

Filling	Appearance	Smell	Flavour	Texture	Dislike	Neither	Like
1							
2							
3							
4							
	colourful dark pale greasy moist	fruity meaty smoky oniony garlicy fishy	salty herby spicy fishy smoky	crispy crunchy soft sticky smooth hard chewy			

Designing – generating ideas

Design criteria

I am going to design and make a sandwich.

I want my sandwich to:

46. _____

47. _____

48. _____

49. _____

50. _____

Complete the lists of available bread and ingredients.

Then choose a bread and food from at least two other food groups to make your sandwich a healthy one.

Record your ideas on the next sheet.

<p style="text-align: center;">CEREALS</p> <p>White bread Brown bread Wholemeal bread</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p style="text-align: center;">FRUIT and VEGETABLES</p> <p>Cucumber Lettuce Pear</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p style="text-align: center;">MEAT, FISH & EGGS</p> <p>Tuna Ham Egg</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p style="text-align: center;">DAIRY PRODUCTS</p> <p>Cheese spread Cheddar cheese Cottage cheese</p> <p>_____</p> <p>_____</p> <p>_____</p>

Spread: butter / margarine / mayonnaise

Designing – developing ideas

Record the recipes for your designs and your thoughts about their appearance, smell, flavour and texture.

Recipe	Appearance	Smell	Flavour	Texture	Dislike	Neither	Like
1 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							
2 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							
3 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							
4 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							

Final design

Which of your 4 ideas will be your chosen design?

Number _____

Why? _____

Will you modify it? _____

What will your sandwich look like? Draw it here.

Planning

Write down the order you will do things in when you make your sandwich.

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

cutting, preparing, slicing, chopping, filling, spreading, washing, mixing

Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

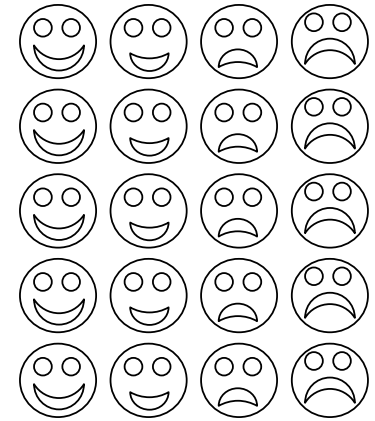
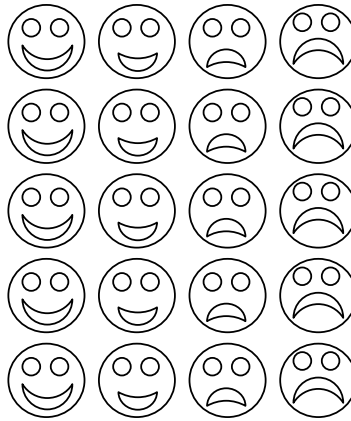
How well does your sandwich do each of these things?

- 46. _____
- 47. _____
- 48. _____
- 49. _____
- 50. _____

YOU

TESTER 1

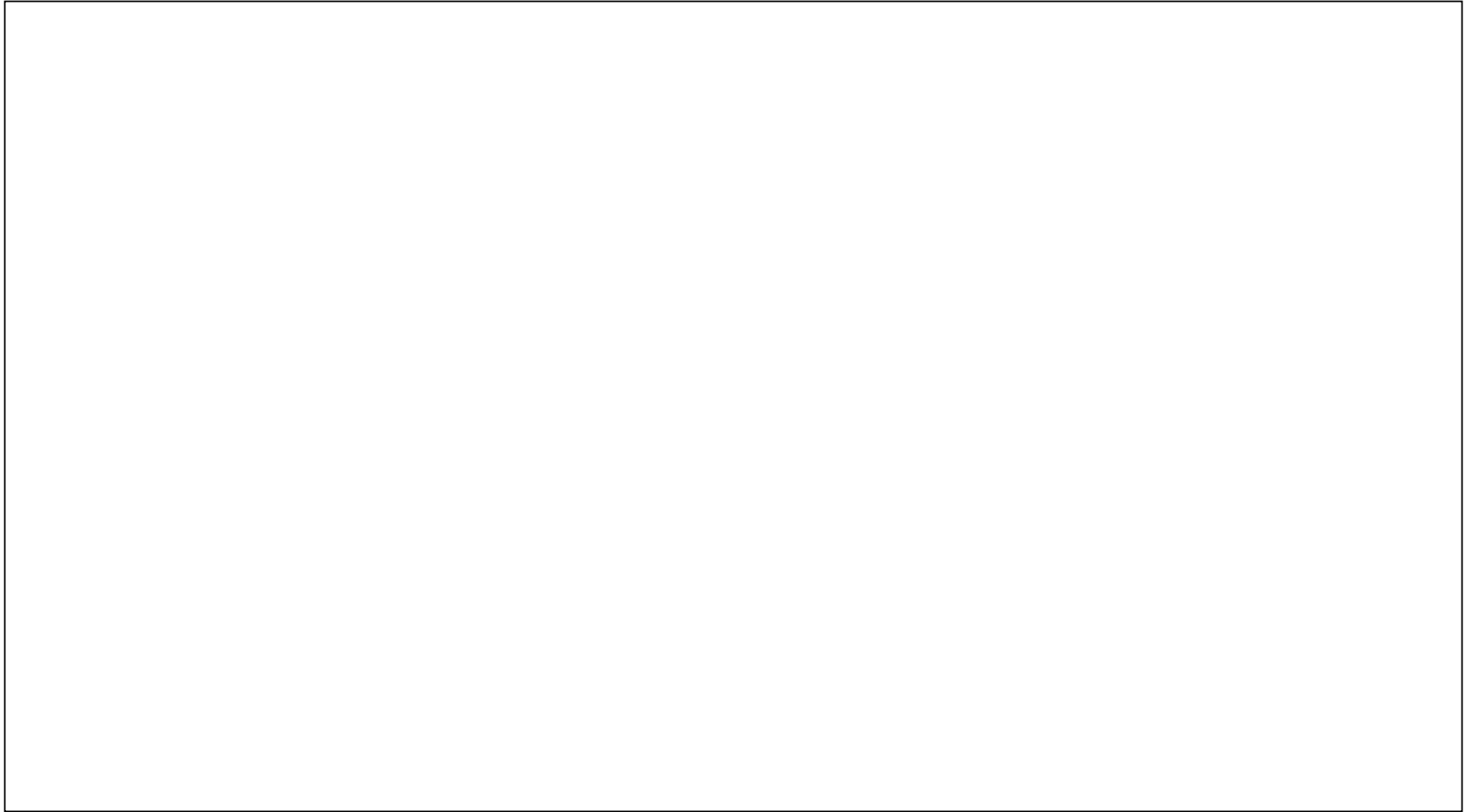
TESTER 2



How many people liked your sandwich? You Yes / No
 Tester 1 Yes / No
 Tester 2 Yes / No

What would you change if you were making the sandwich again? _____

Design and make a Moving Monster

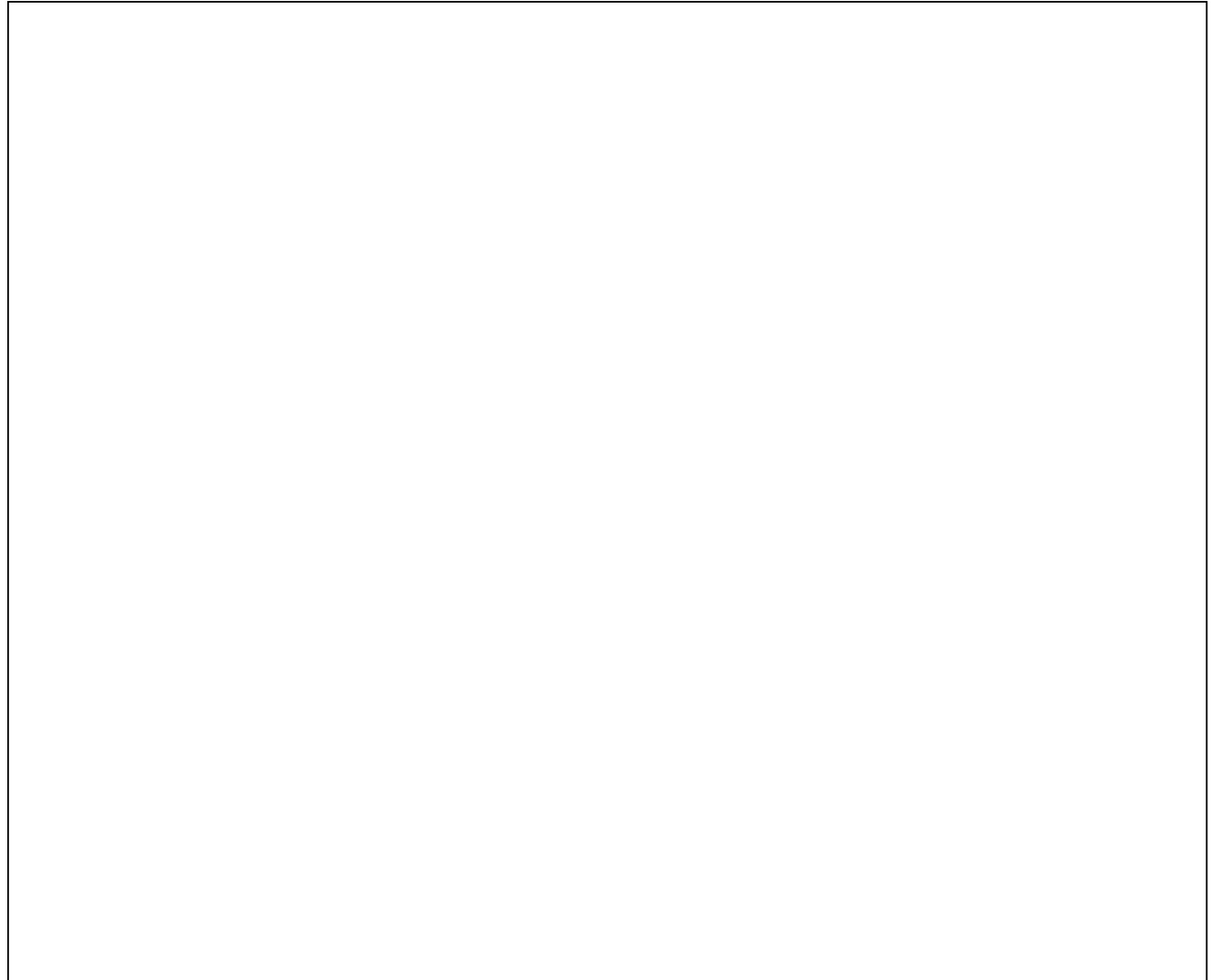


Name	Class	Date
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Investigating pneumatic systems

Try out and then draw the 3 systems you have been shown:

1. Balloon connected to a washing-up liquid bottle
 - What happens when you squeeze the bottle?
 - What happens when you let go?
2. 2 syringes of the same size connected together
 - What happens when you press one syringe down?
 - How far does the other syringe move?
3. 2 syringes of different sizes connected together
 - How far do these syringes move when pressed?



Investigating 'Monsters'

Collect some small creatures (eg ladybirds, caterpillars, woodlice, spiders) and examine their bodies and legs using viewers and/or magnifying glasses.

Draw what you see.

Label your drawings.

Are they scary? Why?

Could you use any of these ideas when you design and make your monster? How?



Designing – generating ideas

Design criteria

I am going to design and make a
Moving Monster

for _____

I want my Monster to:

51. Have at least one moving part

52. _____

53. _____

54. _____

55. _____

Draw and label at least 2 ideas for your Monster.

Designing – developing ideas

Choose your best idea and then show by drawing and labelling:

4. Which parts will move.
5. How you will get them to move.
6. How will the parts be joined together.

Planning

What will you need to make your design?

List it here:

49. _____

50. _____

51. _____

52. _____

53. _____

54. _____

balloons	wood strip	glue	syringes
bottle	dowel rod	card	plastic tubing
paint	cardboard box	paper clips	cardboard
scissors	adhesive tape	paper drill	hinge
glue gun			

Write down the order you will do things in when you make your Monster.

21. _____

22. _____

23. _____

24. _____

25. _____

26. _____

27. _____

28. _____

29. _____

30. _____

Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

51. Have at least one moving part

52. _____

53. _____

54. _____

55. _____

What do you think about your design overall?

How well does your Monster do each of these things?



How could your Monster be made better?

How well does it meet the needs of the person you designed it for?

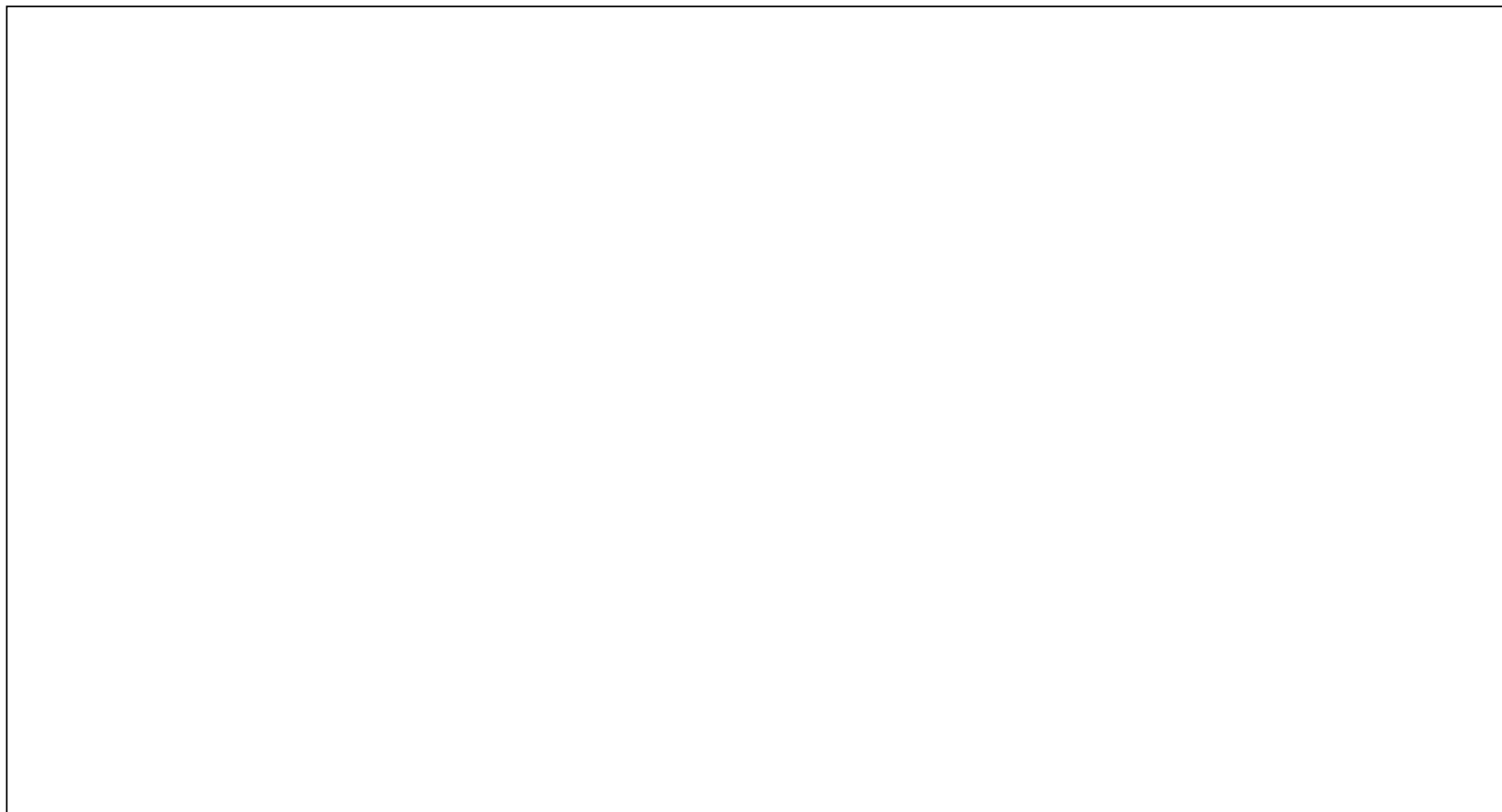
Use a “Storyboard” to show how you made your Monster

Think about the stages you went through when you made your Monster.
Draw and label what you did at each stage.

The storyboard consists of six rectangular boxes, each containing a number from 1 to 6. The boxes are arranged in a descending staircase pattern from top-left to bottom-right. Each box is empty, intended for drawing and labeling the stages of creating a monster.

- 1
- 2
- 3
- 4
- 5
- 6

Design and make a photograph frame



Name	Class	Date
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Investigating photograph frames

Draw and compare two of the frames you have been shown.

1. Show how they are able to stand up on their own.
2. How easy is it to put the photo in?
3. How well do they display the photo?
4. Who would use them?
5. Where would they stand?



Designing – generating ideas

Design criteria

I am going to design and make a
photograph frame

for _____

I want my frame to:

56. _____

57. _____

58. _____

59. _____

60. _____

Draw and label at least 2 ideas for your frame.

Designing – developing ideas

Choose your best idea and then show by drawing and labelling:

7. How it will stand up on its own.
8. How you will get the photograph in and out

Planning

What will you need to make your design?

List it here:

55. _____

56. _____

57. _____

58. _____

59. _____

60. _____

Write down the order you will do things in when you make your frame.

31. _____

32. _____

33. _____

34. _____

35. _____

36. _____

37. _____

38. _____

39. _____

40. _____

card triangles	wood strip	glue	bench hook
saw	dowel rod	card	corriflute
paint	cardboard box	paper clips	drawing pins
scissors	adhesive tape		

Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

56. _____

57. _____

58. _____

59. _____

60. _____

How well does your frame do each of these things?



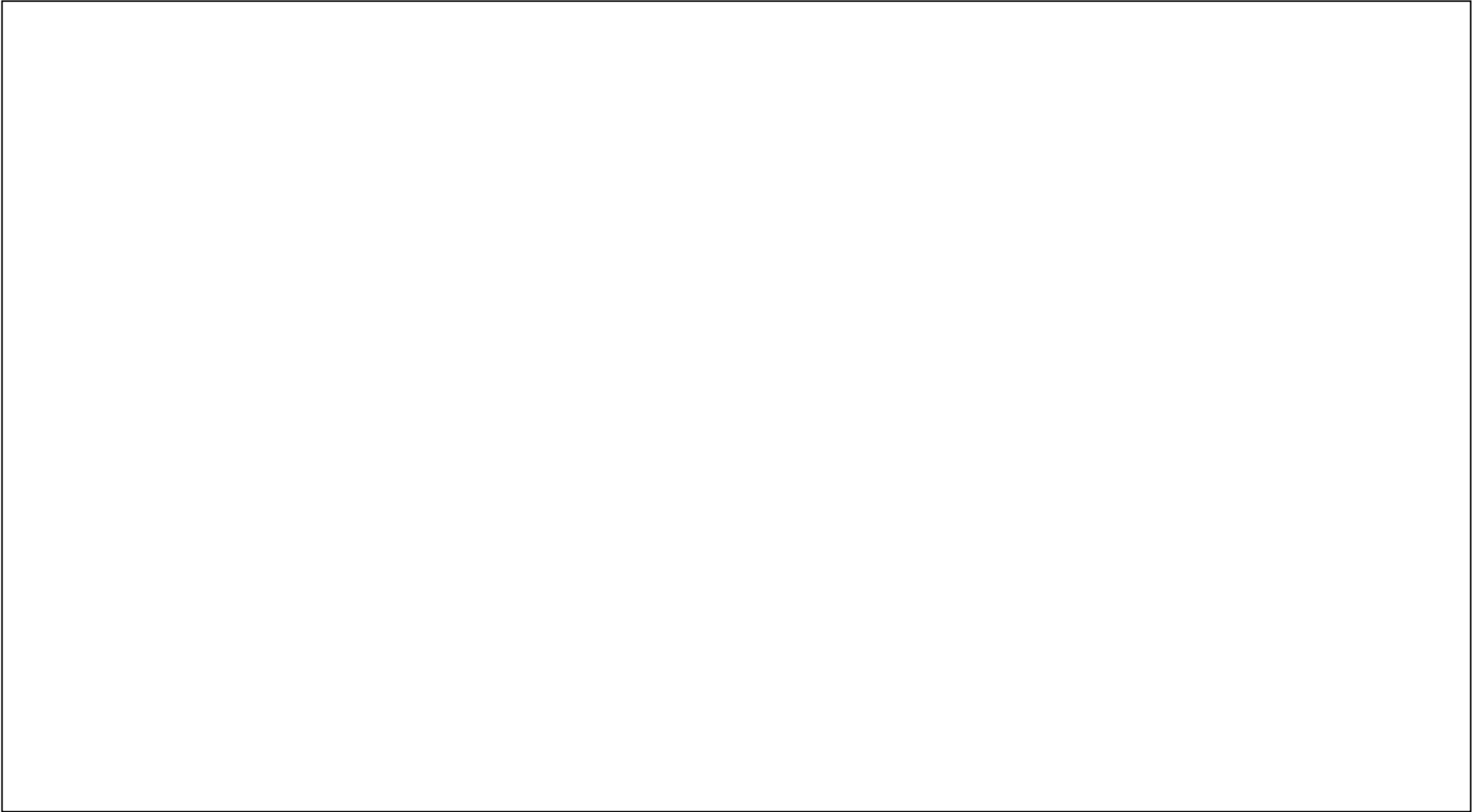
What do you think about your design overall?



How could your frame be made better?

How well does it meet the needs of the person you designed it for?

Design and make a money container



Name	Class	Date
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Investigating money containers

Look at a range of money containers, choose two to compare.
 Draw them and then answer the questions about each one

1

2

	1	2
Who is it most suitable for? Why?		
Does it keep money safe? Why?		
Does it have compartments? Are they useful?		
Is the fastening effective?		
What design features do you like?		
How is it joined together?		
What size is it? Measure it.		

Clarifying the task

Design criteria

I am going to design and make a money container for

I want my money container to (list the most important feature first):

1. _____

2. _____

3. _____

4. _____

5. _____

Start to draw your ideas here:

Generating design ideas

Continue drawing ideas for your money container.
(If you model the ideas in paper, stick you paper models into your process diary as well).

Developing design ideas

Draw and label the final design you have chosen.

Useful words:

- Seam and seam allowance
- Strap
- Hem
- Fastening
- Gusset
- Reinforcement
- Compartments
- Press stud
- Velcro
- Decoration (fabric pens, applique, embroidery, dying etc)
- Type of fabric
 - Say why you have chosen this fabric
 - What are the properties of the fabric (eg hard wearing)

Stick a sample of the chosen fabric here.



Planning

Action plan:

List the sequence of activities you will need to go through to make your container:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Make a pattern/template (remember the seam allowance).
When you have finished glue it here.

Evaluation

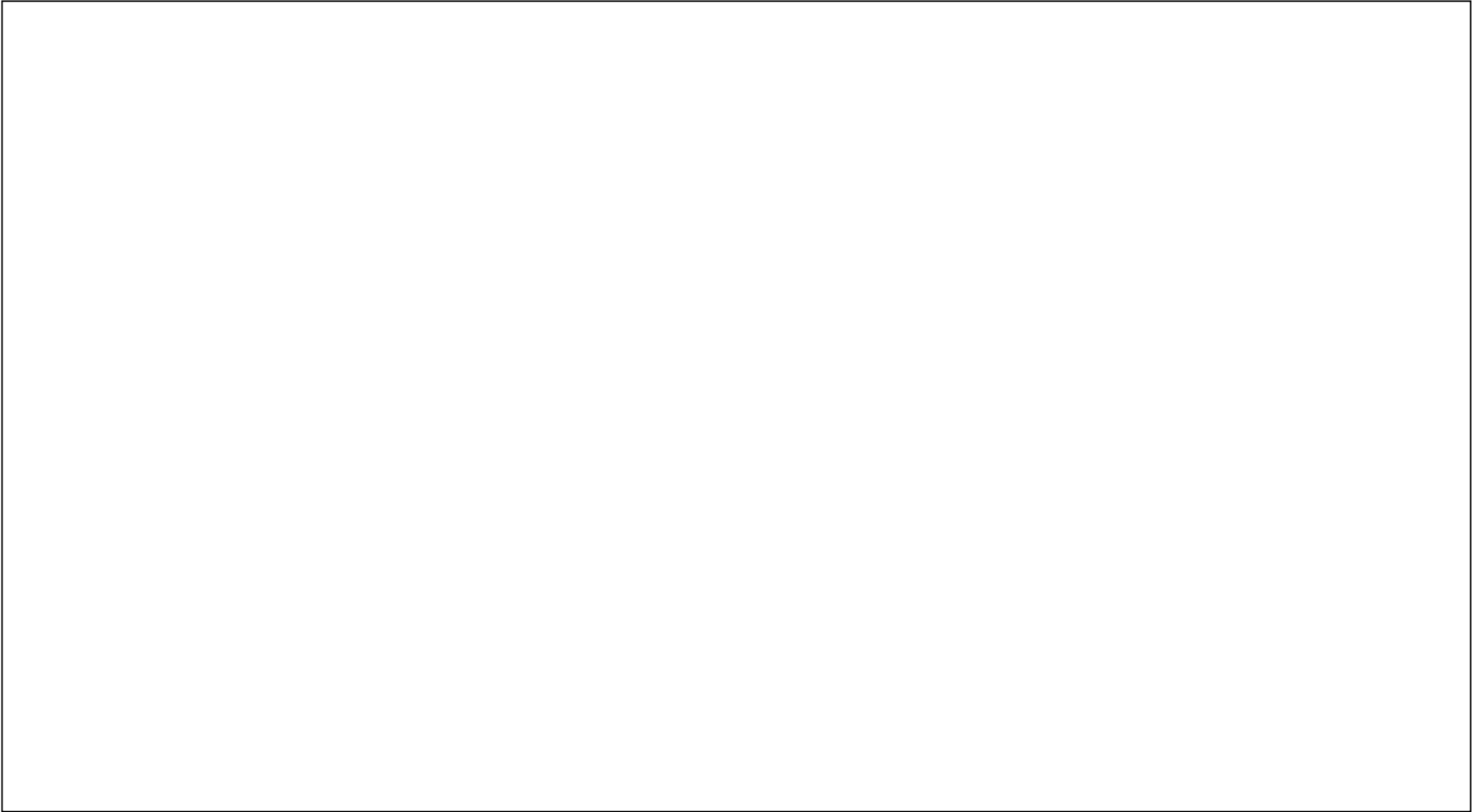
After you have finished and tested your money container say how well you think it meets the design criteria you decided on.

Criteria	Tick			Comments
	Fully meets	Partially meets	Does not meet at all	
1				
2				
3				
4				
5				

What are the best parts of your design?

What parts of your design would you change and why?

Design and make a page for a pop-up book



Name	Class	Date
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Investigating existing moving pictures

How are the mechanisms made?

Does the mechanism help the telling of the story?

What movement is produced?

How many different parts does it have?

Why are moving books usually for children?

Does the picture move well?

Clarifying the task

Design criteria

I am going to design and make a picture of

I want my picture to:

6. _____

7. _____

8. _____

9. _____

10. -

What text will I put on the page/picture?

Generating design ideas

Sketch one idea here.

Sketch your second idea here.

Developing design ideas

Choose one of your ideas to develop. Give your reasons for choosing the solution /idea.

Do your detailed sketches here. Show how the mechanism will work.
(You might want to make models of your mechanisms instead of drawing them.)

Planning

How will I start? What will I do next?
How will I finish?

What tools and materials will I need?
List them here.

What do I need to think about during the
making activity?

Evaluating

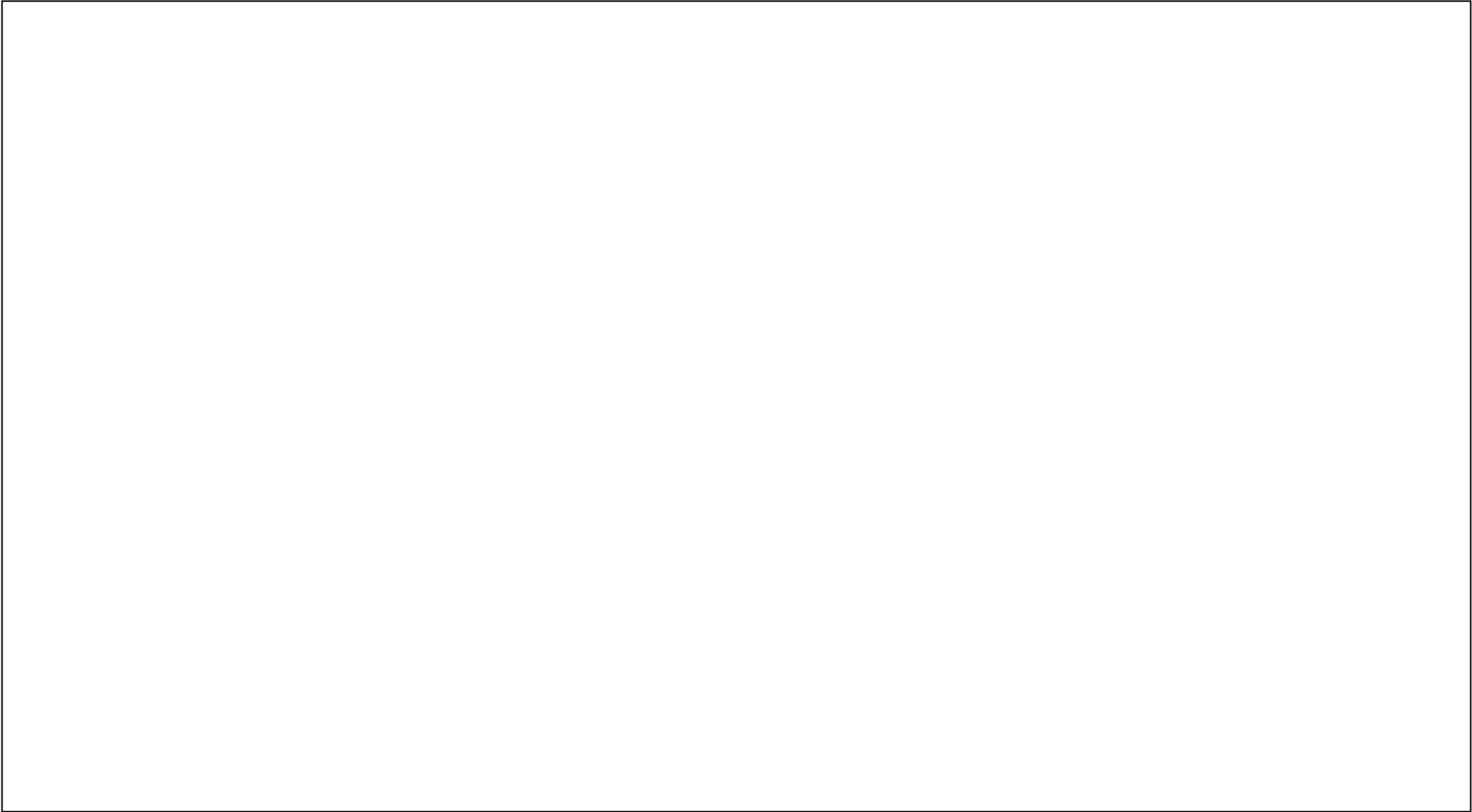
Does my picture have all the things I identified earlier? If not, why not?

What do I like about my picture?
What could I improve on my picture?

Could I have planned my work better?

What have I learnt from doing this activity?
Where else can I use these new skills?

Design and make an alarm



Name	Class	Date
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Investigating alarms

List some examples of alarm systems

Alarm system	Where is it used?	Why is it used?
1		
2		
3		
4		
5		

Investigating and making switches

Draw and describe a range of switches (eg slide, tilt, push-to-make, push-to-break etc):

Draw the switches you have made and explain how they work:

Clarifying the task

Design criteria

I am going to design and make an alarm to protect

I want my alarm to (list the most important feature first):

11. _____

12. _____

13. _____

14. _____

15. _____

Start to draw and label your ideas here:

Generating design ideas

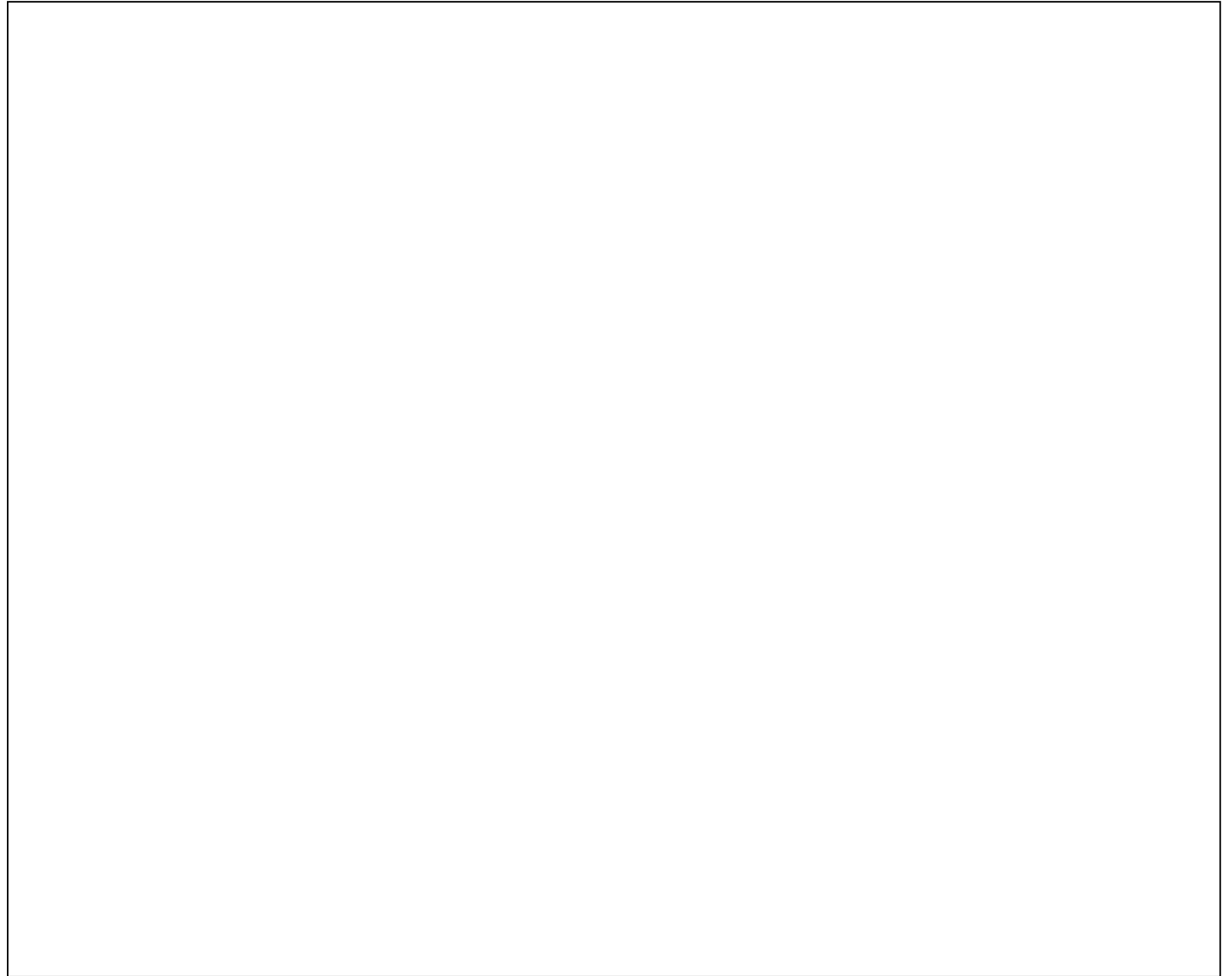
Continue drawing ideas for your alarm here.

Developing design ideas

Draw and label the final design you have chosen.

Remember to show:

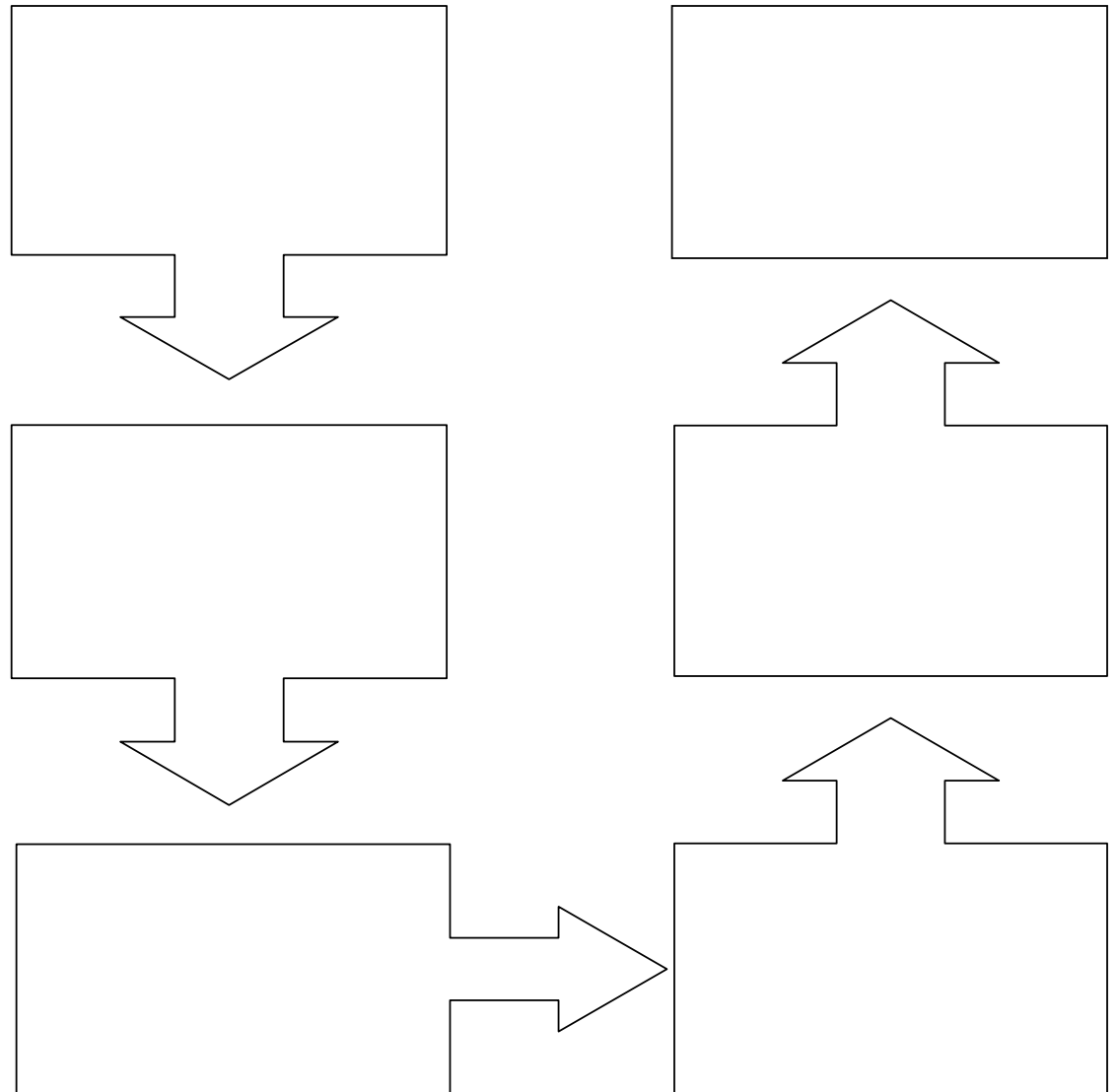
- What materials each part is made from.
- How the materials have been joined.
- How the batteries and can be replaced.
- How the switch works.



Planning

- List the materials, tools and equipment you will need to make your design below
- Show the sequence of activities needed to make your alarm in the flow diagram on the right:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Evaluation

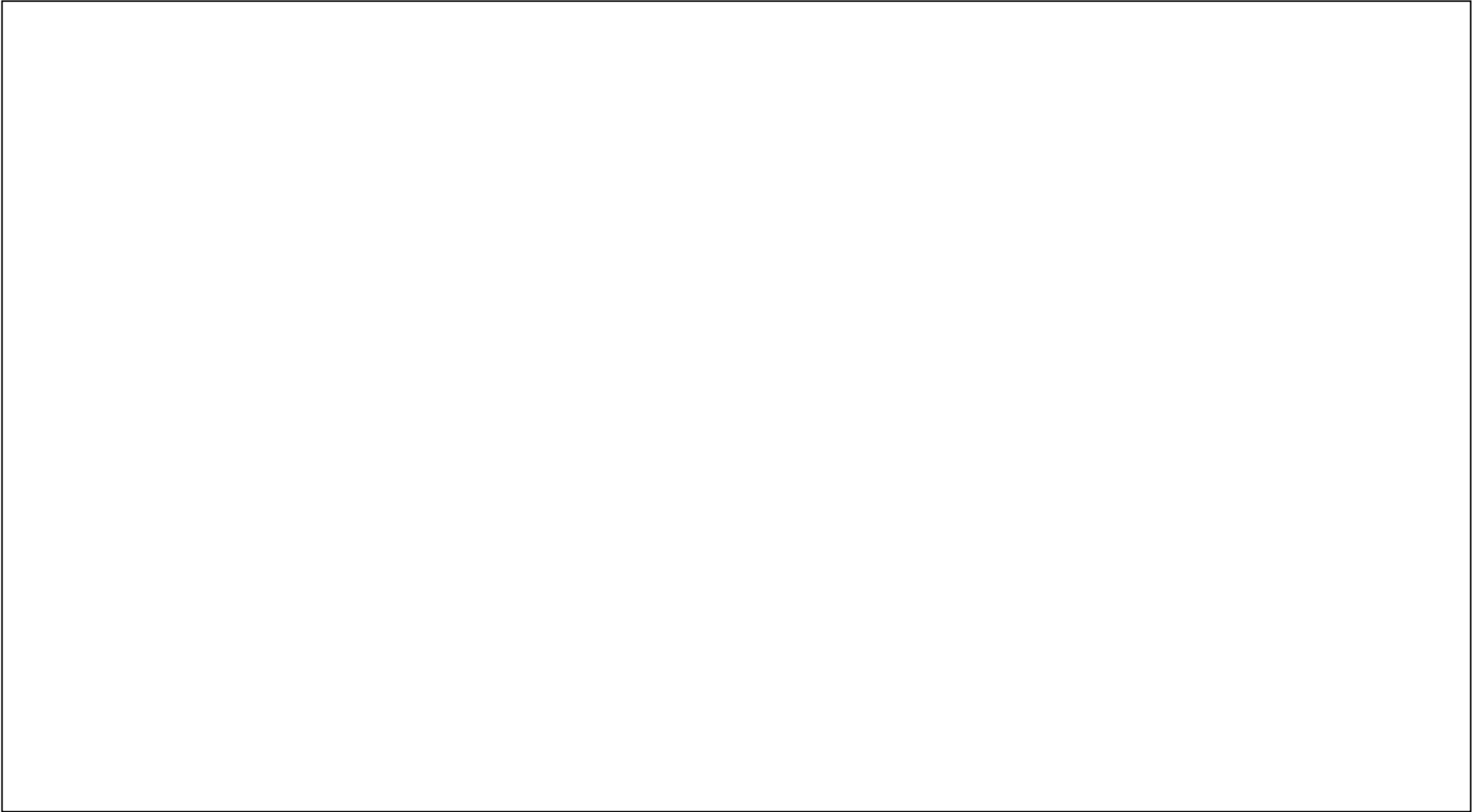
After you have finished and tested your alarm say how well you think it meets the design criteria you decided on.

Criteria	Tick			Comments
	Fully meets	Partially meets	Does not meet at all	
1				
2				
3				
4				
5				

What are the best parts of your design?

What parts of your design would you change and why?

Design and make a light



Name	Class	Date
-------------	--------------	-------------

Investigating lights - 1

Look at a collection of lights,
choose two to compare.
Draw them and then answer these
questions about each one:

1. What is the purpose of the light?
2. Who is the user?
3. How has the designer made it suitable for the user?
4. What materials is it made from and why?
5. What shape is it and why?
6. Is it stable?
7. Is it adjustable?
8. How does the switch work?
9. How many batteries are used?
10. Label the:
 - Bulb
 - Reflector
 - Battery
 - Switch
 - Casing

1

Investigating lights – 2

1. What is the purpose of the light?
2. Who is the user?
3. How has the designer made it suitable for the user?
4. What materials is it made from and why?
5. What shape is it and why?
6. Is it stable?
7. Is it adjustable?
8. How does the switch work?
9. How many batteries are used?
10. Label the:
 - Bulb
 - Reflector
 - Battery
 - Switch
 - Casing

2

Investigating and making switches

Draw the switches you have made and explain how they work:

Draw a simple circuit including a switch (use the correct circuit symbols):

Clarifying the task

Design criteria

I am going to design and make a light for

It will be used for

I want my light to (list the most important feature first):

1. _____
2. _____
3. _____
4. _____
5. _____

Start to draw and label your ideas here:

Generating design ideas

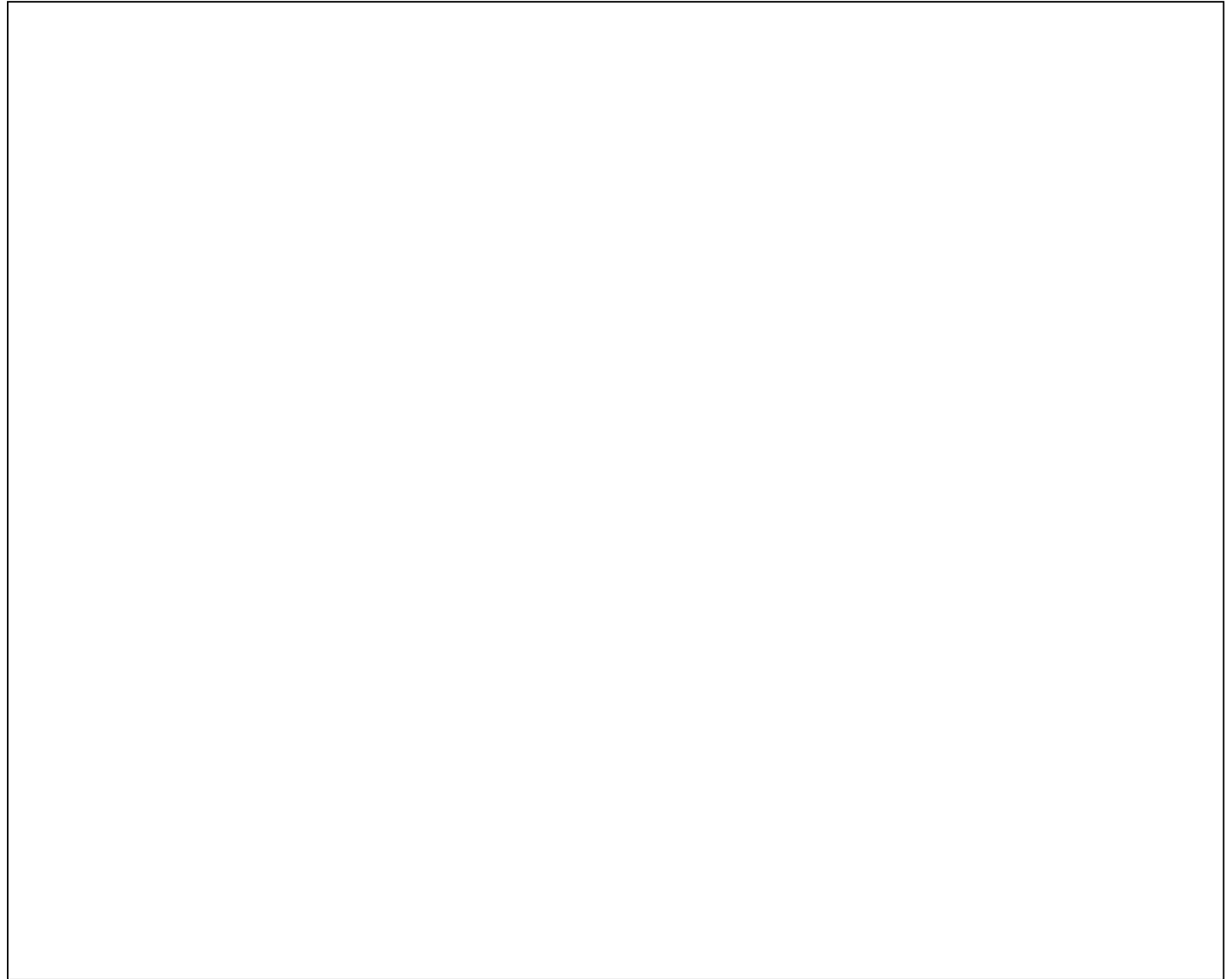
Continue drawing ideas for your light here.

Developing design ideas

Draw and label the final design you have chosen.

Remember to show:

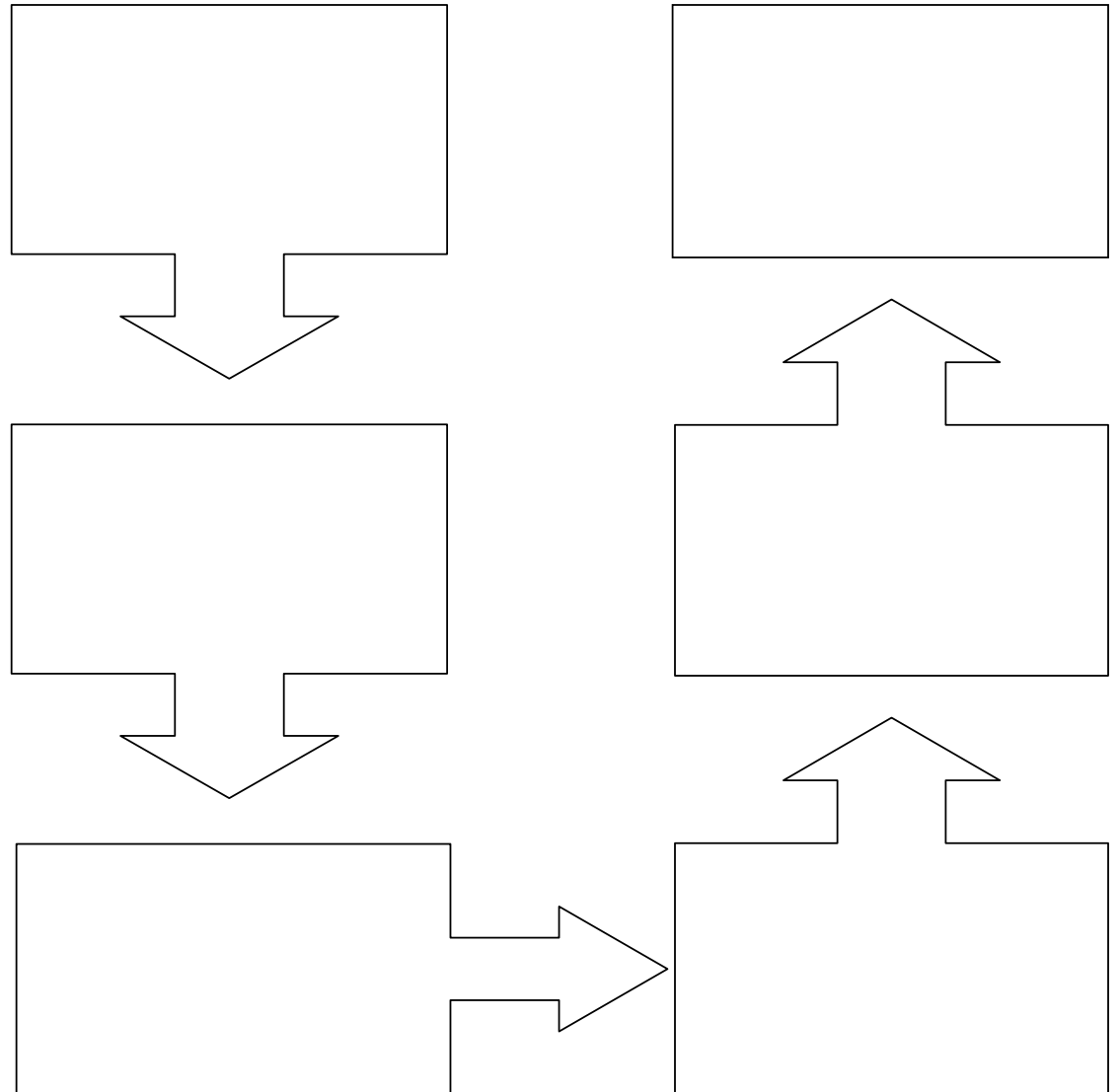
- What materials each part is made from.
- How the materials have been joined.
- How the batteries and bulb can be replaced.
- How the switch works.
-



Planning

- List the materials, tools and equipment you will need to make your design below
- Show the sequence of activities needed to make your light in the flow diagram on the right:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Evaluation

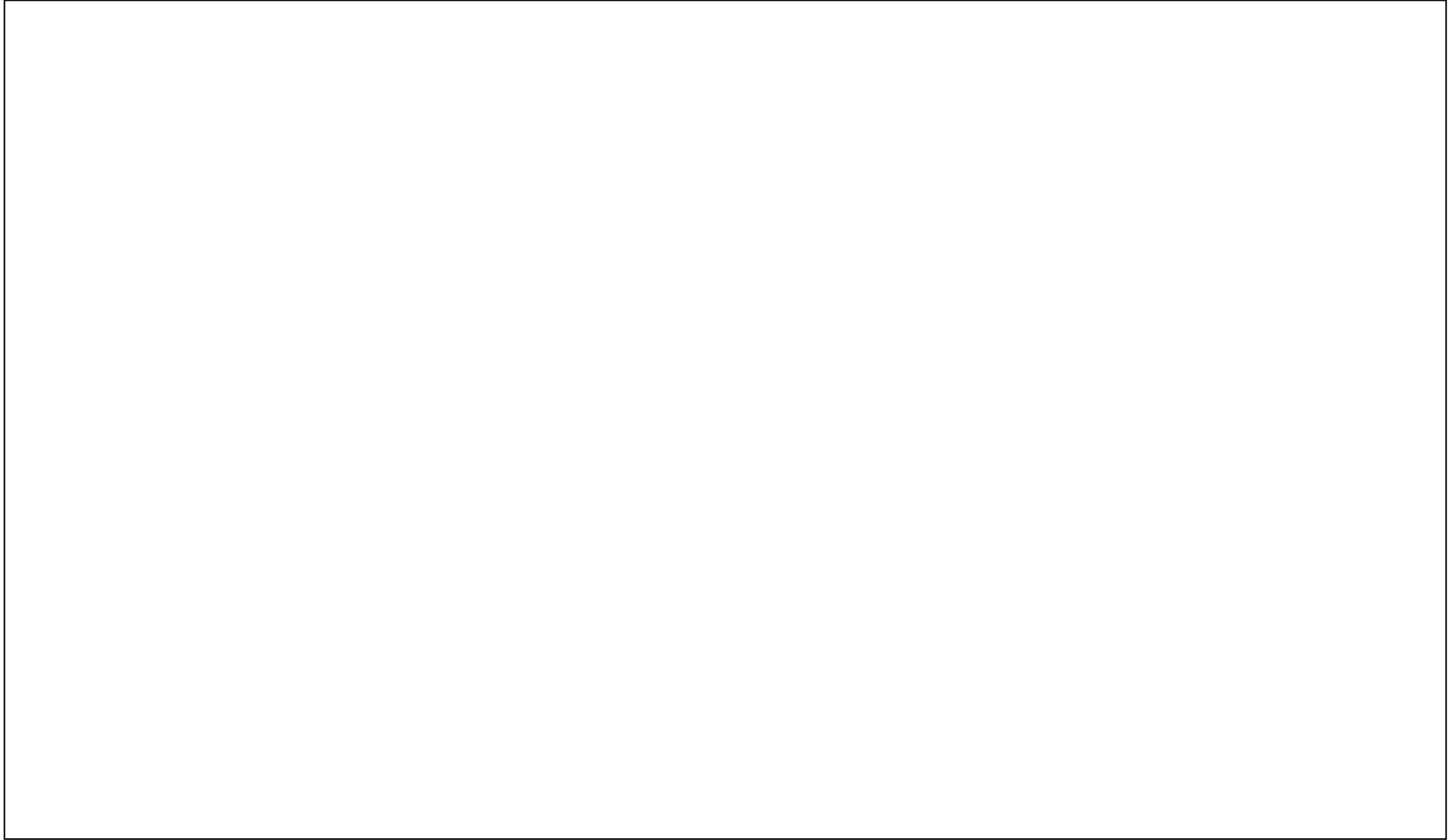
After you have finished and tested your light say how well you think it meets the design criteria you decided on.

Criteria	Tick			Comments
	Fully meets	Partially meets	Does not meet at all	
1				
2				
3				
4				
5				

What are the best parts of your design?

What parts of your design would you change and why?

Design and make a musical instrument



Name	Class	Date
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Investigating musical instruments

Draw one of the musical instruments you have been shown.

Label and annotate the instrument.

1. What type of instrument is it?
2. How does it make the sound?
3. Does it make different sounds, and if so, how?

Useful words:

Box

Arm

Stem

Board

Beater

String

Skin

Wood

Plastic

Rubber

Elastic

Hollow

solid



Investigating making sounds

In words and pictures show how you could make a shaker, a scraper, a drum and a string instrument.

Think about:

1. What you would use to make it.
2. How it would make a sound.

A shaker

A scraper

A drum

A string instrument

Designing

Design criteria

I am going to design and make a musical instrument for

_____ (person).

I want my musical instrument to (list in order of importance):

61. _____

62. _____

63. _____

64. _____

65. _____

66. _____

I will get ideas from:

Start to draw your ideas for your musical instrument here (use extra sheets of paper if necessary).

Designing

Developing your ideas

Show:

- how the instrument is made
- the materials to be used
- the sizes of the parts

If you use materials to model your ideas

Try and photograph them and attach them to this sheet.

What tools, equipment and materials will you need to make your design?

List it here:

61. _____ 9. _____

62. _____ 10. _____

63. _____ 11. _____

64. _____ 12. _____

65. _____ 13. _____

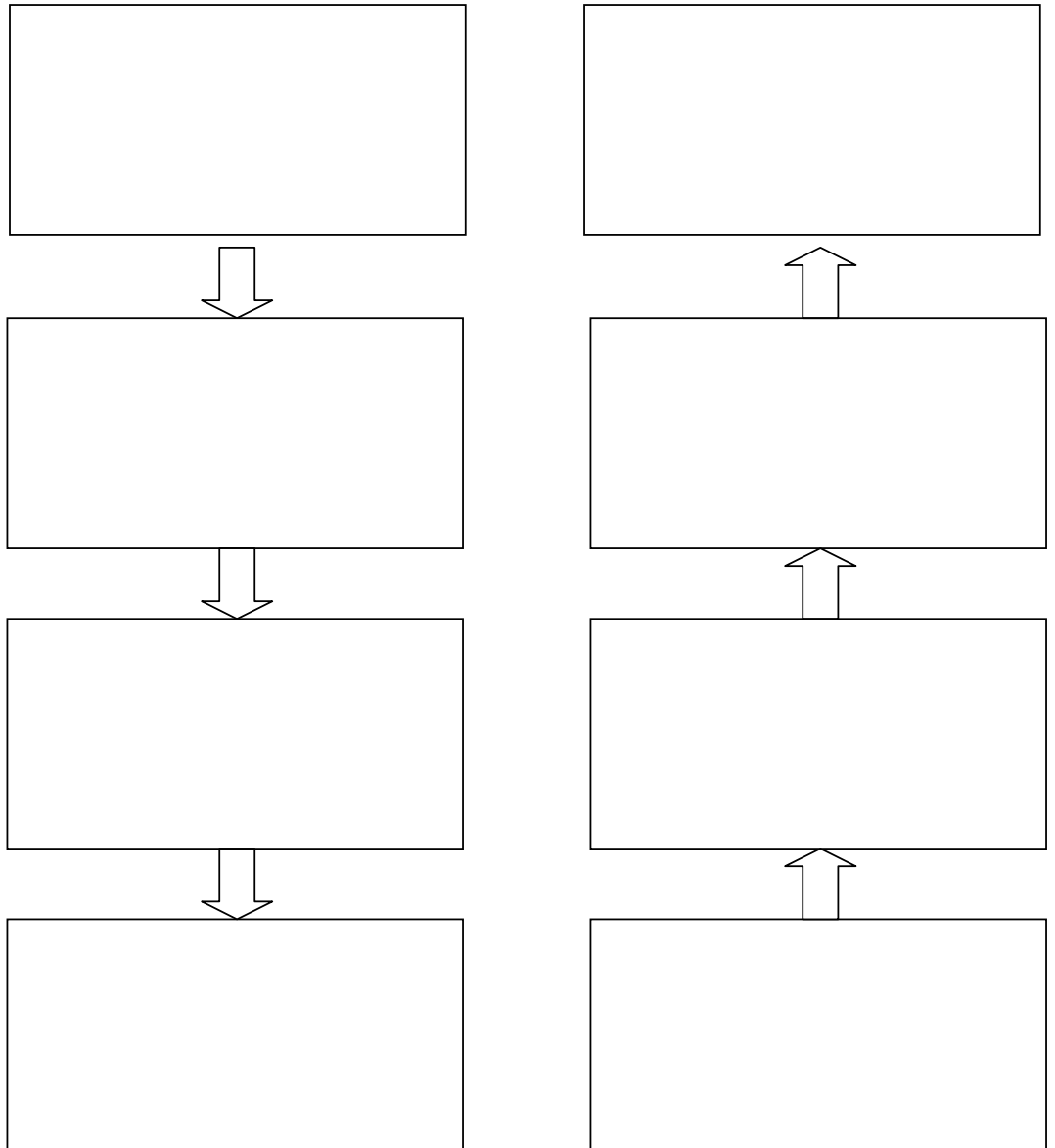
66. _____ 14. _____

67. _____ 15. _____

68. _____ 16. _____

Planning

Draw a flow diagram to show the order in which you will make your instrument.



Evaluating


You said you wanted your design to do these things (copy your design criteria here):	How well does your toy do each of these things?
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____

What do you think worked well?

What could you do to make your design better?

What do you think about your design overall?

Design and make a bread product



Name	Class	Date
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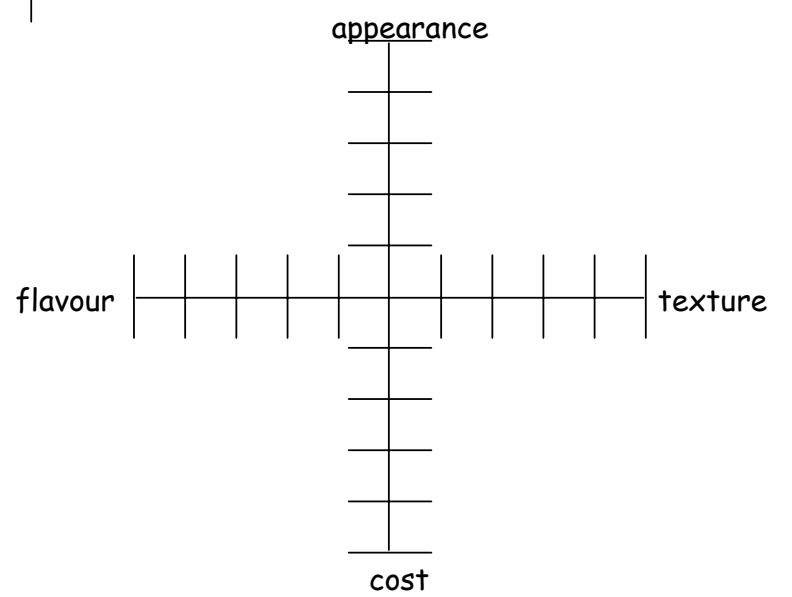
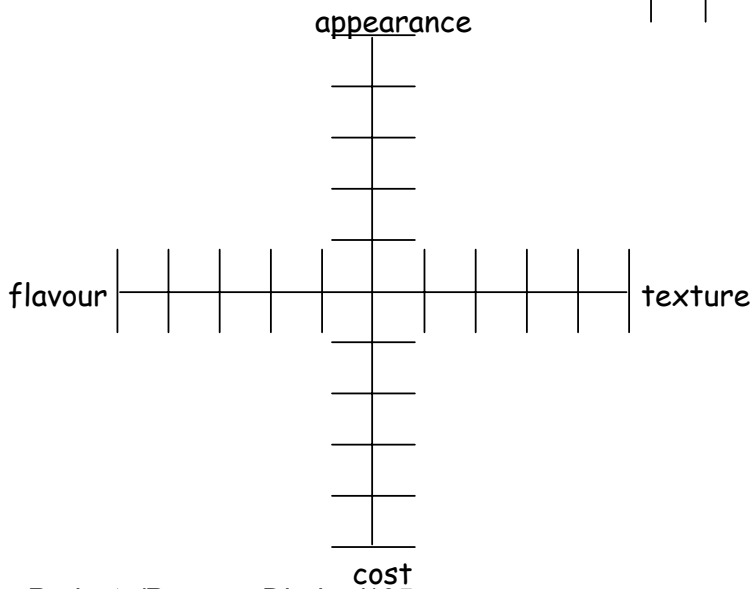
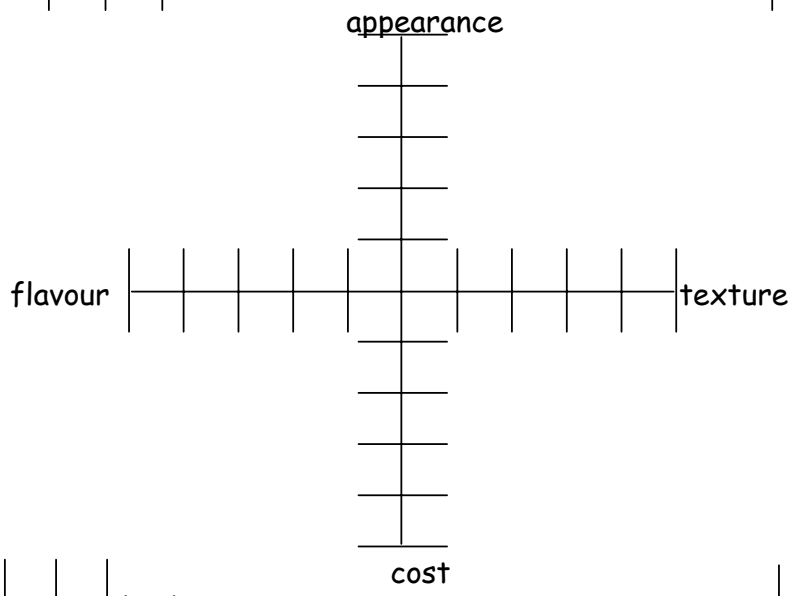
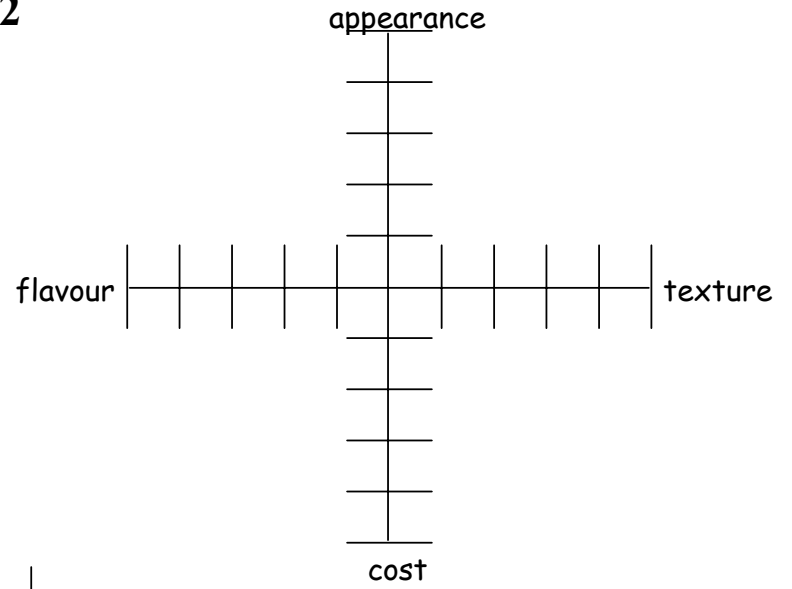
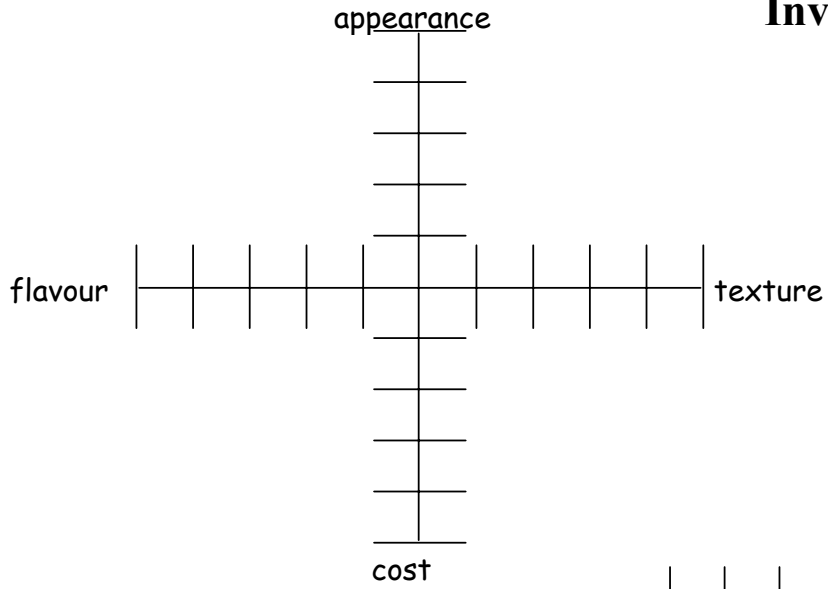
Investigating bread - 1

Product analysis

Taste the breads provided and record your results in the table below.

	Appearance	Flavour	Texture	Comments	Dislike	Neither	Like
1 Chappatti							
2 Granary roll							
3 Pitta							
4 Crust white roll							
5 White sliced							
	colourful dark pale greasy moist	salty herby spicy doughy smoky yeasty	crispy crunchy soft sticky smooth hard				

Investigating bread – 2



Designing – generating ideas

Design criteria

I am going to design and make bread for

I want my bread to be (appearance /flavour / texture etc):

67. _____

68. _____

69. _____

70. _____

71. _____

Ingredients for basic bread recipe:

Adaptation 2:

Adaptation 1:

Adaptation 3:

Designing – developing ideas

Record the recipes for your designs and your thoughts about their appearance, flavour and texture.

Recipe	Appearance	Flavour	Texture	How achieved	Dislike	Neither	Like
1 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							
2 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							
3 Bread <hr/> Ingredients <hr/> <hr/> <hr/>							

Final design

Which of your ideas will be your chosen design?

Number _____

Why? _____

Will you modify it? _____

What will your bread look like? Draw it here.

Planning

Write down the order you will do things in when you make your bread.
Remember to note safety and hygiene points.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

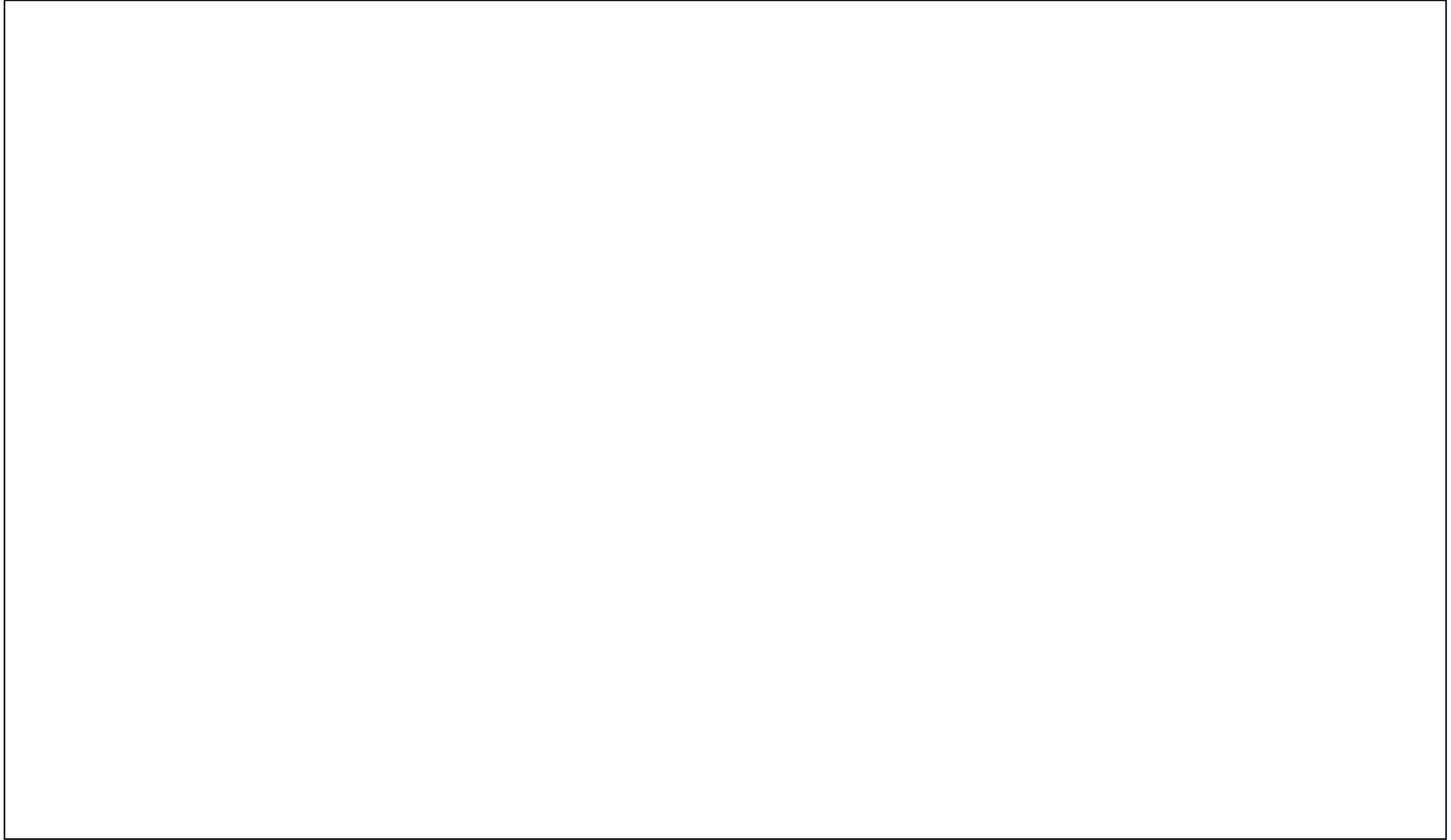
9. _____

10. _____

Evaluating

<p>You said you wanted your design to do these things (copy your design criteria here):</p>	<p>How well does your bread do each of these things?</p>																	
	YOU	TESTER 1	TESTER 2															
1. _____	_____ /10	_____ /10	_____ /10															
2. _____	_____ /10	_____ /10	_____ /10															
3. _____	_____ /10	_____ /10	_____ /10															
4. _____	_____ /10	_____ /10	_____ /10															
5. _____	_____ /10	_____ /10	_____ /10															
<p>How many people liked your bread?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;"></td> <td style="width: 10%;">You</td> <td style="width: 10%;">Yes</td> <td style="width: 10%;">/</td> <td style="width: 10%;">No</td> </tr> <tr> <td></td> <td>Tester 1</td> <td>Yes</td> <td>/</td> <td>No</td> </tr> <tr> <td></td> <td>Tester 2</td> <td>Yes</td> <td>/</td> <td>No</td> </tr> </table>					You	Yes	/	No		Tester 1	Yes	/	No		Tester 2	Yes	/	No
	You	Yes	/	No														
	Tester 1	Yes	/	No														
	Tester 2	Yes	/	No														
<p>What would you change if you were making the bread again? _____</p> <p>_____</p>																		

Design and make a moving toy



Name	Class	Date
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Investigating moving toys

Look carefully at a number of toys which contain moving parts.

Draw at least one of the toys and show:

- which parts turn;
- which parts move;
- how the different parts are attached to allow free movement;
- how the moving parts are guided into place.

You might have to draw a number of small sketches to do this.

Also:

- label all the types of motion;
- label the materials the toy has been made from;
- say how the toy has been 'finished' (eg painted, polished etc)
- say why you think the designer has chosen to make a moving toy like this;
- say who the toy has been designed and made for.

Types of motion			
linear	reciprocating	rotary	oscillating

Designing

Design criteria

I am going to design and make a moving toy for

_____ (person).

I want my toy to (list in order of importance):

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Remember to think about

- how you want the toy to work,
- what you want it to look like
- who you are making it for.

Draw your ideas for your toy here (use extra sheets of paper if necessary).

Designing

Developing your ideas

Show:

- how the mechanism will work;
- how you will make the 'decorative' parts of the model.

If you make card models remember to attach them to this sheet.

Planning

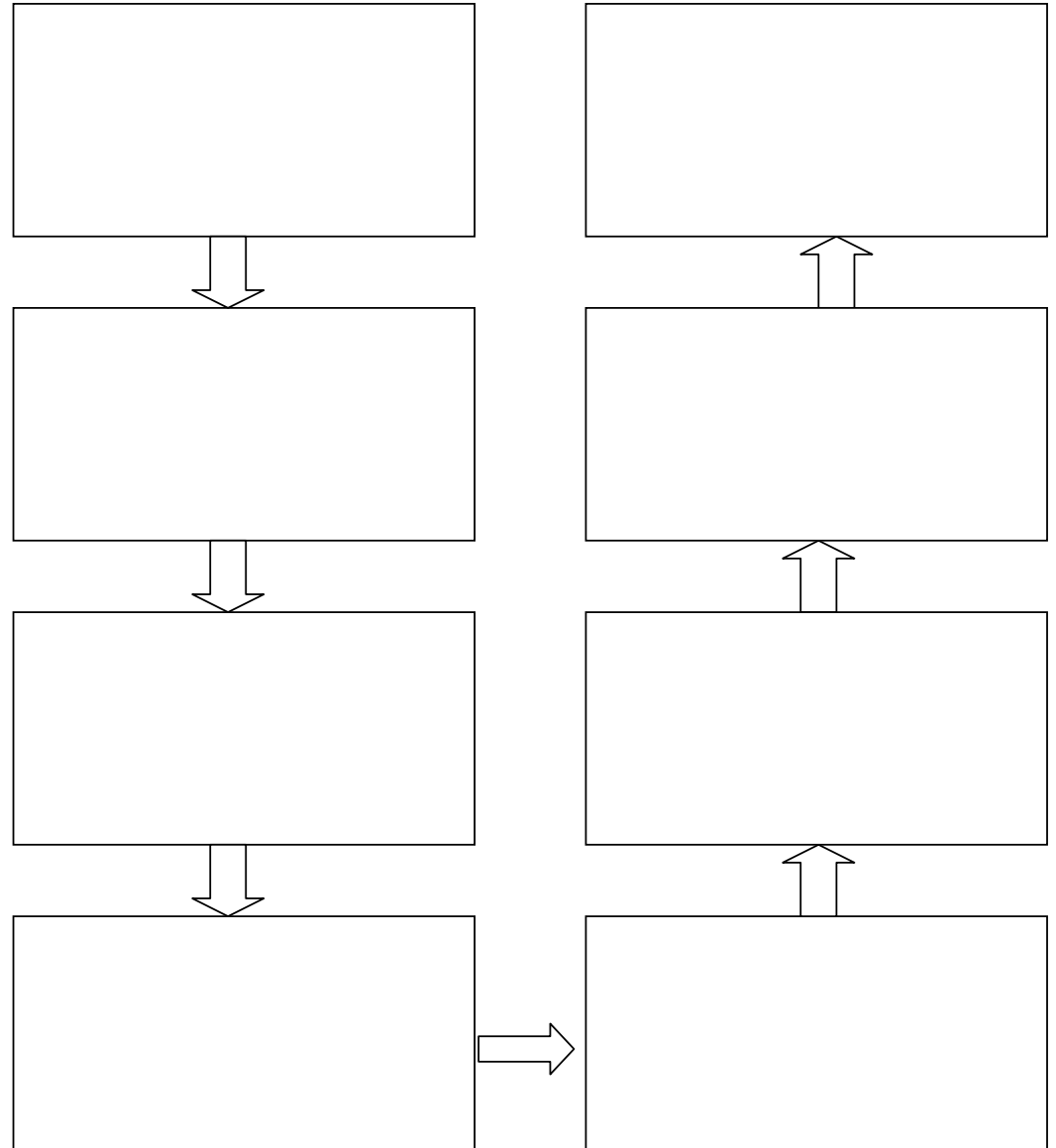
What will you need to make your design?

List it here:

1. _____ 9. _____
2. _____ 10. _____
3. _____ 11. _____
4. _____ 12. _____
5. _____ 13. _____
6. _____ 14. _____
7. _____ 15. _____
8. _____ 16. _____

wood strip	dowel rod	wooden wheels	cardboard box
cam	crank	pivot	axle
card triangles	pegs	cotton reels	plastic tubing
junior hacksaw	bench hook	hand drill	drill bit
mechanism	off-centre	force	framework
follower	guide	shaft	G-cramp
reamer	assemble	mark out	prototype

Draw a flow diagram to show the order in which you will make your toy.



Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

How well does your toy do each of these things?

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

What do you think about your design overall?

Design and make biscuits



Name	Class	Date
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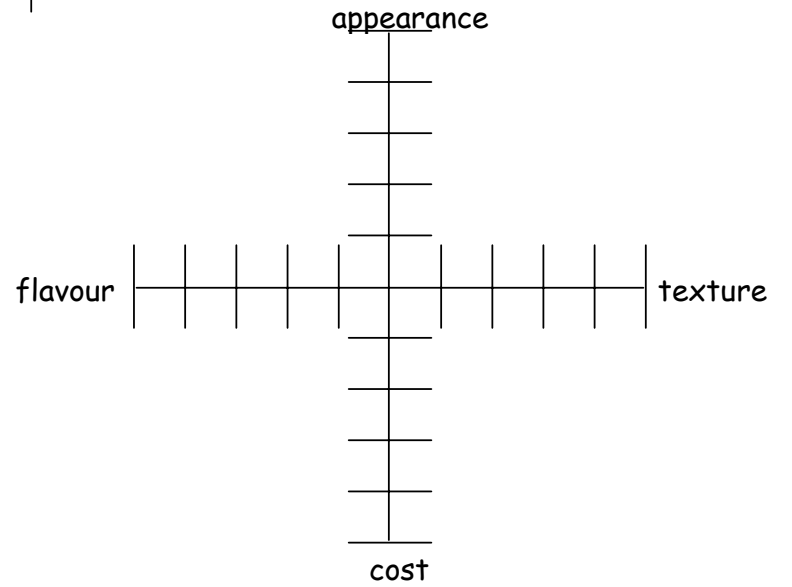
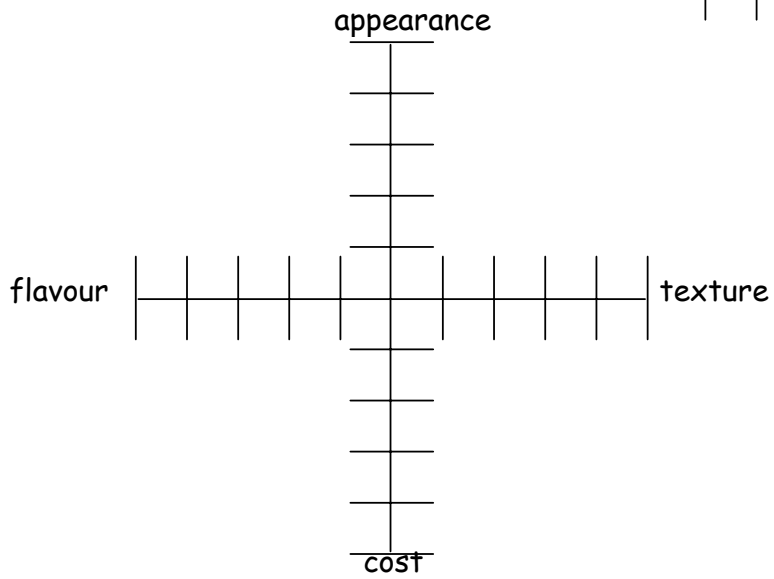
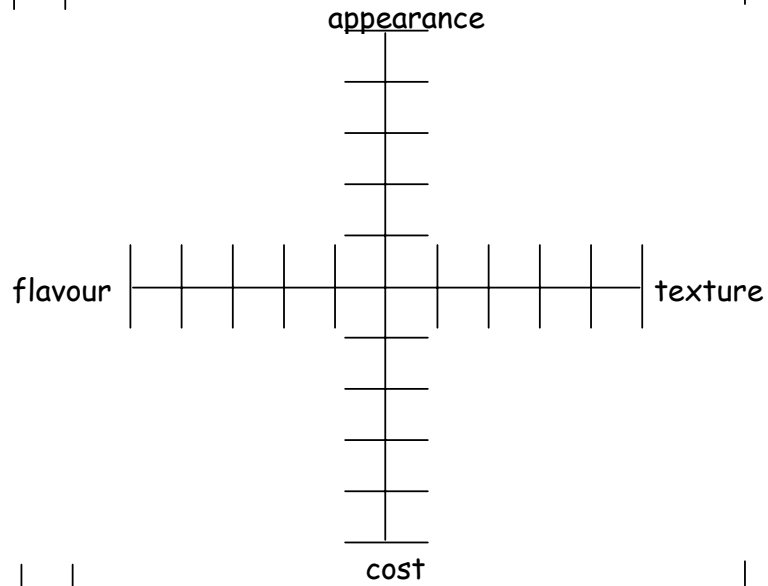
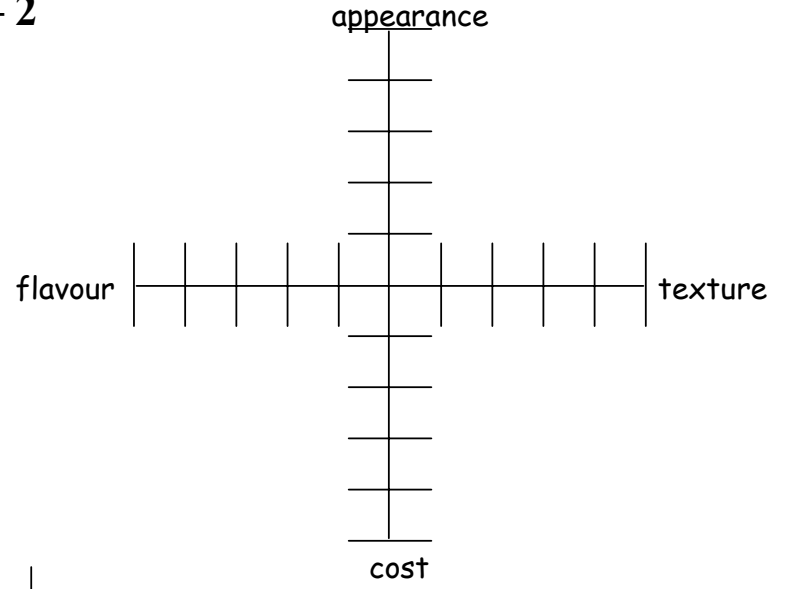
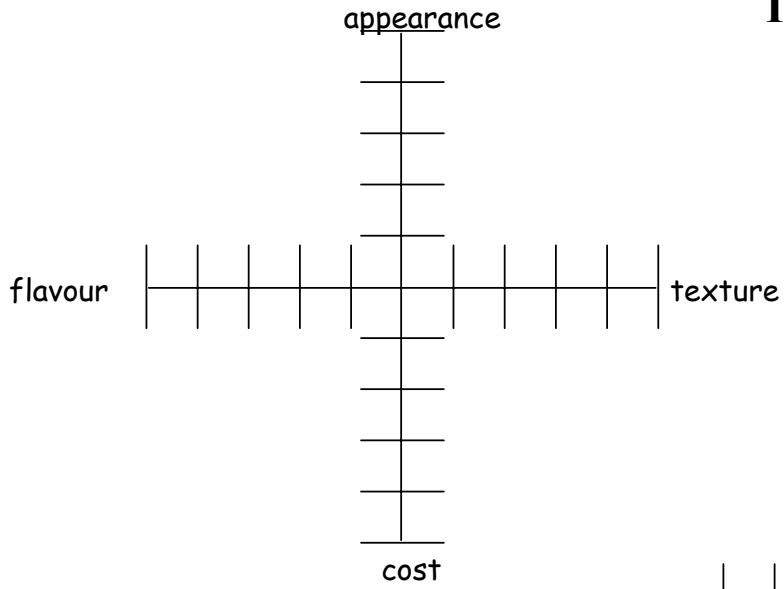
Investigating biscuits - 1

Product analysis

Taste the biscuits provided and record your results in the table below.

	Appearance	Flavour	Texture	Comments	Dislike	Neither	Like
1 Digestive							
2 Fruit shortcake							
3 Custard cream							
4 Cheese							
5 Rich tea							
	colourful dark pale greasy moist shiny	salty herby sweet savoury smoky	crispy crunchy soft rough smooth hard crumbly				

Investigating biscuits – 2



Designing – generating ideas

Design criteria

I am going to design and make biscuits for

I want my biscuits to be (appearance /flavour / texture etc):

72. _____

73. _____

74. _____

75. _____

76. _____

Ingredients for basic biscuit recipe:

Ingredients which could be added to change TEXTURE:

Nuts
Seeds
Demerara sugar
Chocolate chips
Apple
Banana
Oats

Ingredients which could be added to change APPEARANCE:

Chocolate chips
Small sweets
Icing
Hundreds and thousands
Seeds

Ingredients which could be added to change TASTE:

SWEET	SAVOURY
Sugar	Cheese
Coconut	Salt
Chocolate	Garlic
Spices	Herbs
	Seeds

Designing – developing ideas

Record the recipes for your designs and your thoughts about their appearance, flavour and texture.

Recipe	Appearance	Flavour	Texture	How achieved	Dislike	Neither	Like
1 Ingredients _____ _____ _____							
2 Ingredients _____ _____ _____							
3 Ingredients _____ _____ _____							

Final design

Which of your ideas will be your chosen design?

Number _____

Why? _____

Will you modify it? _____

What will your biscuits look like? Draw it here.

Planning

Write down the order you will do things in when you make your biscuits. Remember to note safety and hygiene points.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Evaluating

You said you wanted your design to do these things (copy your design criteria here):	How well do your biscuits do each of these things?								
	YOU	TESTER 1	TESTER 2						
1. _____	_____ /10	_____ /10	_____ /10						
2. _____	_____ /10	_____ /10	_____ /10						
3. _____	_____ /10	_____ /10	_____ /10						
4. _____	_____ /10	_____ /10	_____ /10						
5. _____	_____ /10	_____ /10	_____ /10						
<p>How many people liked your biscuits?</p> <table style="margin-left: 100px; border: none;"> <tr> <td style="padding-right: 20px;">You</td> <td>Yes / No</td> </tr> <tr> <td>Tester 1</td> <td>Yes / No</td> </tr> <tr> <td>Tester 2</td> <td>Yes / No</td> </tr> </table>				You	Yes / No	Tester 1	Yes / No	Tester 2	Yes / No
You	Yes / No								
Tester 1	Yes / No								
Tester 2	Yes / No								
<p>What would you change if you were making the biscuits again? _____</p> <p>_____</p>									

Design and make a shelter



Name	Class	Date
-------------	--------------	-------------

Investigating Shelters – 1

Complete the information below for at least 2 different types of shelter.

Type of shelter.	Draw the complete shelter here	
Where is the shelter located?		
What is the purpose of the shelter?		
What materials have been used to make it?		
What are it's dimensions?		
Who will use it?		Detailed drawings of parts of the shelter
How has it been constructed?		
What are the names and purposes of the different parts?		
Other details		

Investigating Shelters – 2

Type of shelter.	Draw the complete shelter here
Where is the shelter located?	
What is the purpose of the shelter?	
What materials have been used to make it?	
What are it's dimensions?	
Who will use it?	Detailed drawings of parts of the shelter
How has it been constructed?	
What are the names and purposes of the different parts?	
Other details	

Clarifying your ideas - 1

Design criteria

I am going to design and make a model of a shelter for

I want my shelter to (list in order of importance):

1. _____

2. _____

3. _____

4. _____

5. _____

Start to draw your ideas for your shelter here.

Generating ideas

Continue to draw your ideas here.

Developing ideas - 1

You may want to model your ideas. If you do, try and take photographs and stick them here.

Begin to detail how your chosen shelter will be made.

- What materials will be used?
- How will the parts be joined?
- How will it be reinforced?
- How will it be finished?

Developing ideas - 2

Draw a front, side and plan view of your shelter (an orthographic drawing).
Add dimensions to help you make it.

Planning

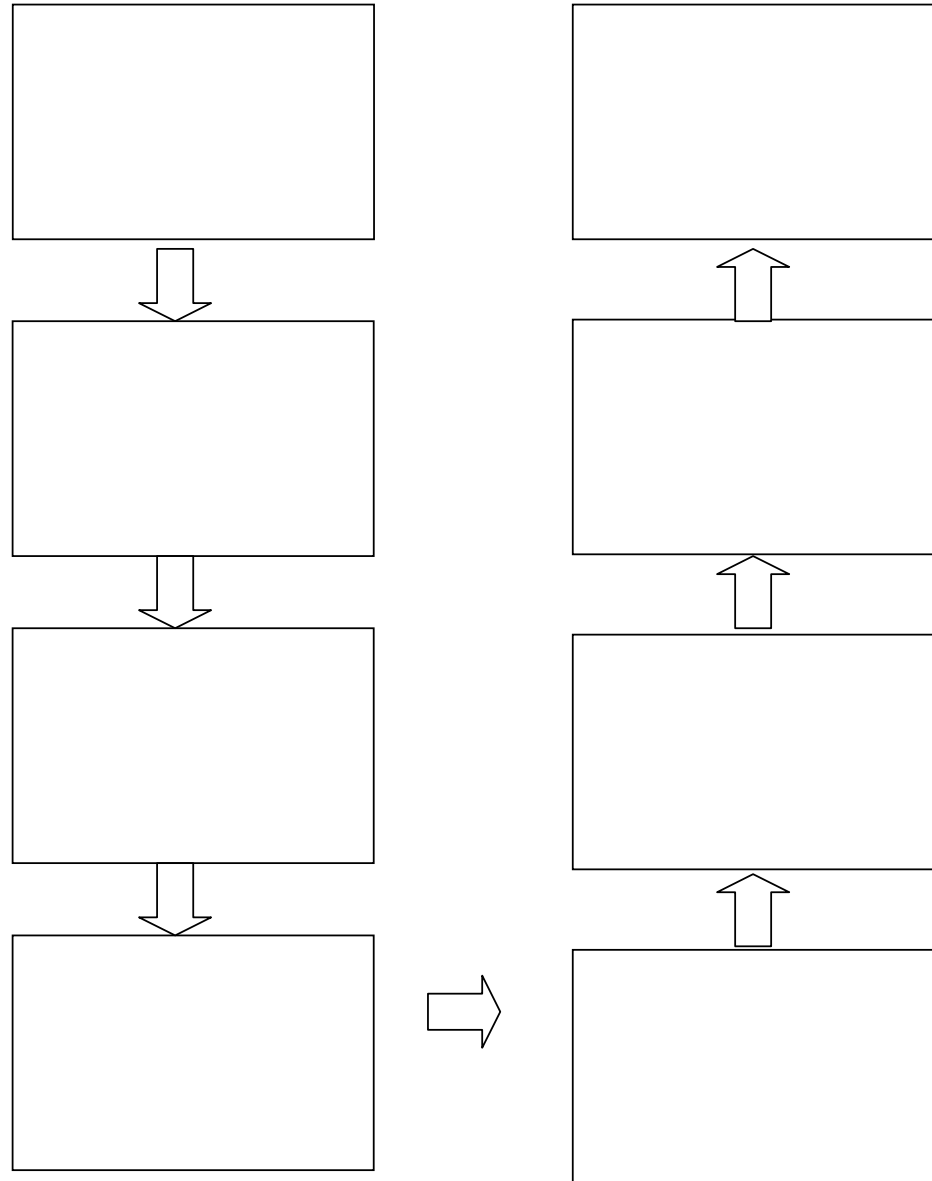
What will you need to make your design?

List it here:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Wood strip	Dowel rod	Paper	Art straws
Glue	Pipe cleaners	Card	Elastic bands
Card triangles	Pegs	Cotton reels	Plastic tubing
Junior hacksaw	Bench hook	Hand drill	Fabric

Draw a flow diagram to show the order in which you will make your shelter.



Testing

Describe how you will test your shelter.

- What parts of your shelter will you test?
- How will you make it a fair test?
- Draw or photograph the shelter being tested?

Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

1. _____

2. _____

3. _____

4. _____

5. _____

How well does your shelter do each of these things?

What do you think about your design overall?

Design and make a slipper



Name	Class	Date
-------------	--------------	-------------

Investigating Slippers – 1

Complete the information below for at least 2 different types of slipper.

<p>Draw the slipper.</p>	<p>List the materials used for the uppers, inners and soles.</p>	
<p>How has the slipper been constructed? Draw the different parts.</p>	<p>Who would wear these slippers?</p>	<p>What would these slippers be like to wear? Think about comfort, safety, warmth etc.</p>

Investigating Slippers – 2

<p>Draw the slipper.</p>	<p>List the materials used for the uppers, inners and soles.</p>	
<p>How has the slipper been constructed? Draw the different parts.</p>	<p>Who would wear these slippers?</p>	<p>What would these slippers be like to wear? Think about comfort, safety, warmth etc.</p>

Clarifying ideas

Design criteria

I am going to design and make a slipper for

I want my slipper to (list in order of importance):

1. _____

2. _____

3. _____

4. _____

5. _____

Start to draw your ideas for your slipper here.

Generating ideas

Continue to draw your ideas here.

You may also want to model your ideas.

If you do, try and take photographs and stick them here.

Developing ideas

Begin to detail how your chosen slipper will be made.

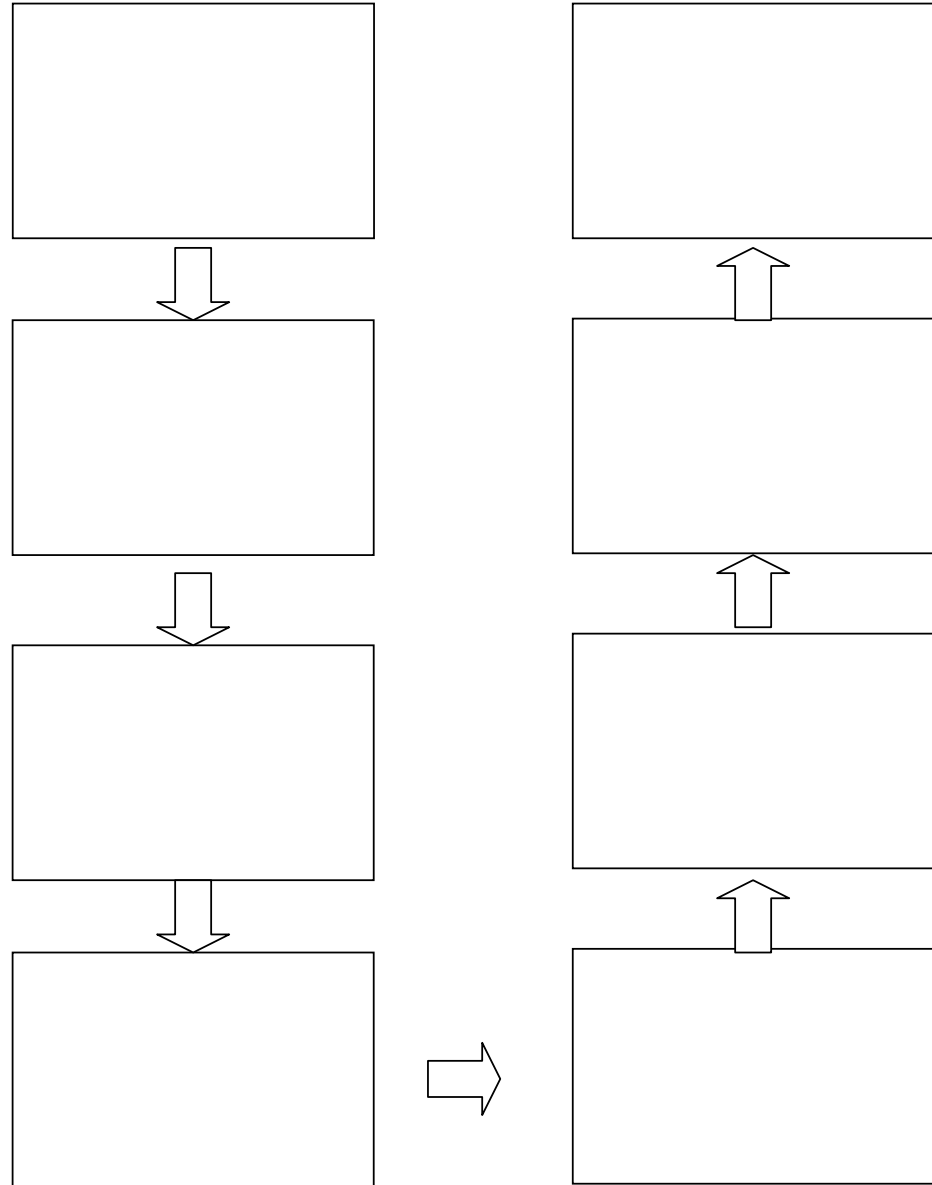
- Make a pattern (when you have finished using it, glue it here).
- Draw your final design and include dimensions.
- Include fabric swatches of the materials you have chosen, and say why you are using them.

Planning

What will you need to make your design?
List it here:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Draw a flow diagram to show the order in which you will make your slipper.



Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

1. _____

2. _____

3. _____

4. _____

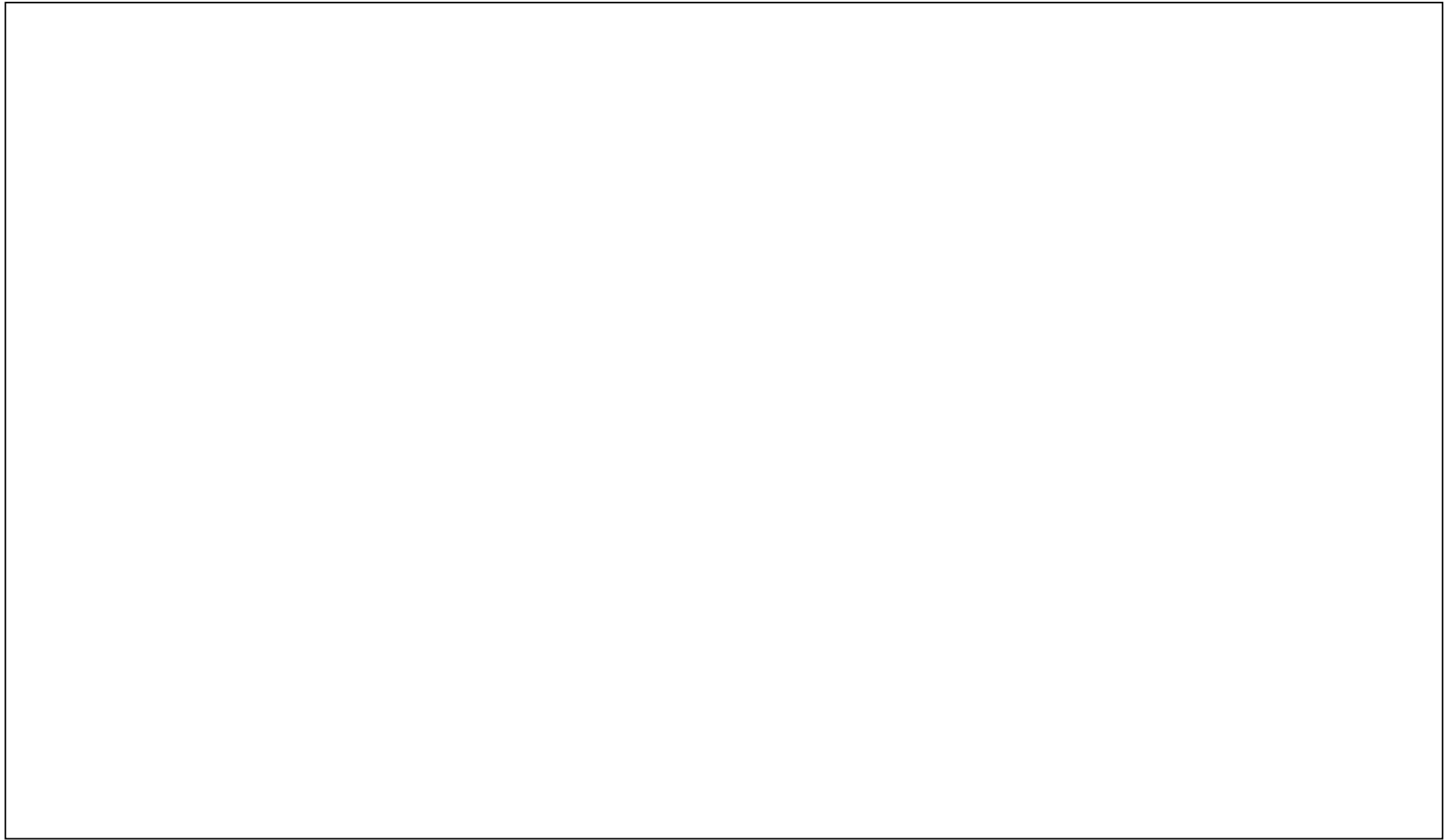
5. _____

How well does your slipper do each of these things?

What do you think of the slipper overall?

If you were making it again what would you change, and why?

Design and make a fairground ride



Name	Class	Date
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Investigating – 1 (Fairgrounds)

Visit a fair (or watch a video) and then sketch 2 of the rides that have rotating parts.

- Label all the types of motion.
- How does the ride turn?
- Draw the mechanism.
- Label all the parts.
- How are the components joined together?

Investigating – 2 (Mechanisms)

Examine, draw and label toys/appliances which have electric motors.

- Draw and label the mechanisms.
- How is the speed of the motor increased/decreased?

Designing

Design criteria

I am going to design and make a rotating fairground ride.

I want my ride to (list in order of importance):

1. _____

2. _____

3. _____

4. _____

5. _____

Start to draw your ideas for your fairground ride here.

Designing

Developing your ideas

Show how the electric motor will turn the ride.

Draw your electric circuit.

Draw the circuit diagram.

Planning

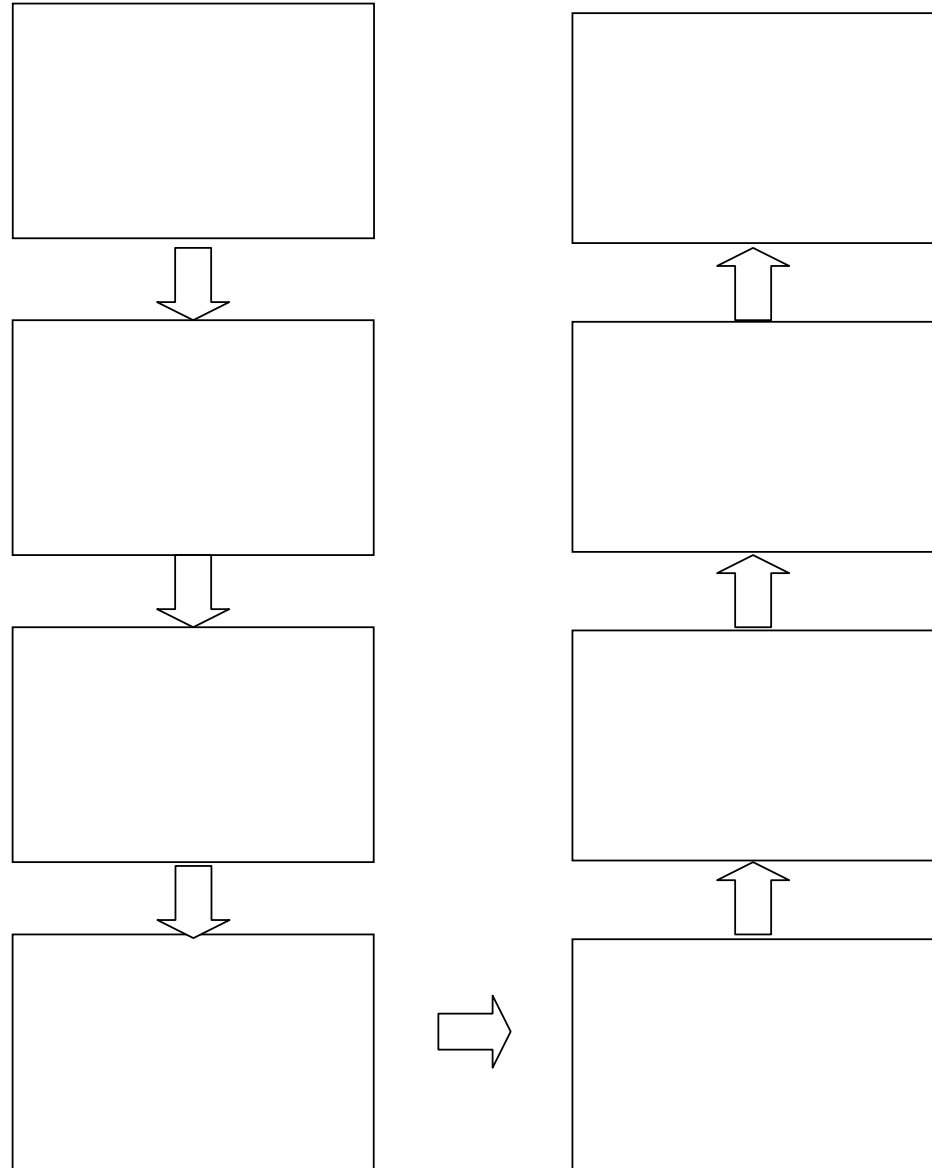
What will you need to make your design?

List it here:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Wood strip	Dowel rod	Wire	Electric motor
Battery holder	Connector blocks	Card	Elastic bands
Card triangles	Pegs	Cotton reels	Plastic tubing
Junior hacksaw	Bench hook	Hand drill	

Draw a flow diagram to show the order in which you will make your ride



Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

1. _____

2. _____

3. _____

4. _____

5. _____

How well does your fairground ride do each of these things?

What do you think about your design overall?

Design and make a controllable vehicle



Name	Class	Date
------	-------	------

Investigating controllable vehicles

Look at the controllable vehicles you have been shown and draw and label different views, including exploded views, to show:

- Where the power comes from?
- How the wheels driven?
- How the components joined together?
- How the speed of the motor is increased/decreased?
- What are their similarities and differences?

Designing

Design criteria

I am going to design and make a vehicle for

I want my vehicle to (list in order of importance):

1. _____

2. _____

3. _____

4. _____

5. _____

Start to draw your ideas for your vehicle here.

Designing

Developing your ideas

Show how the electrical components will be fitted to the vehicle.

Draw your electric circuit.

Draw the circuit diagram.

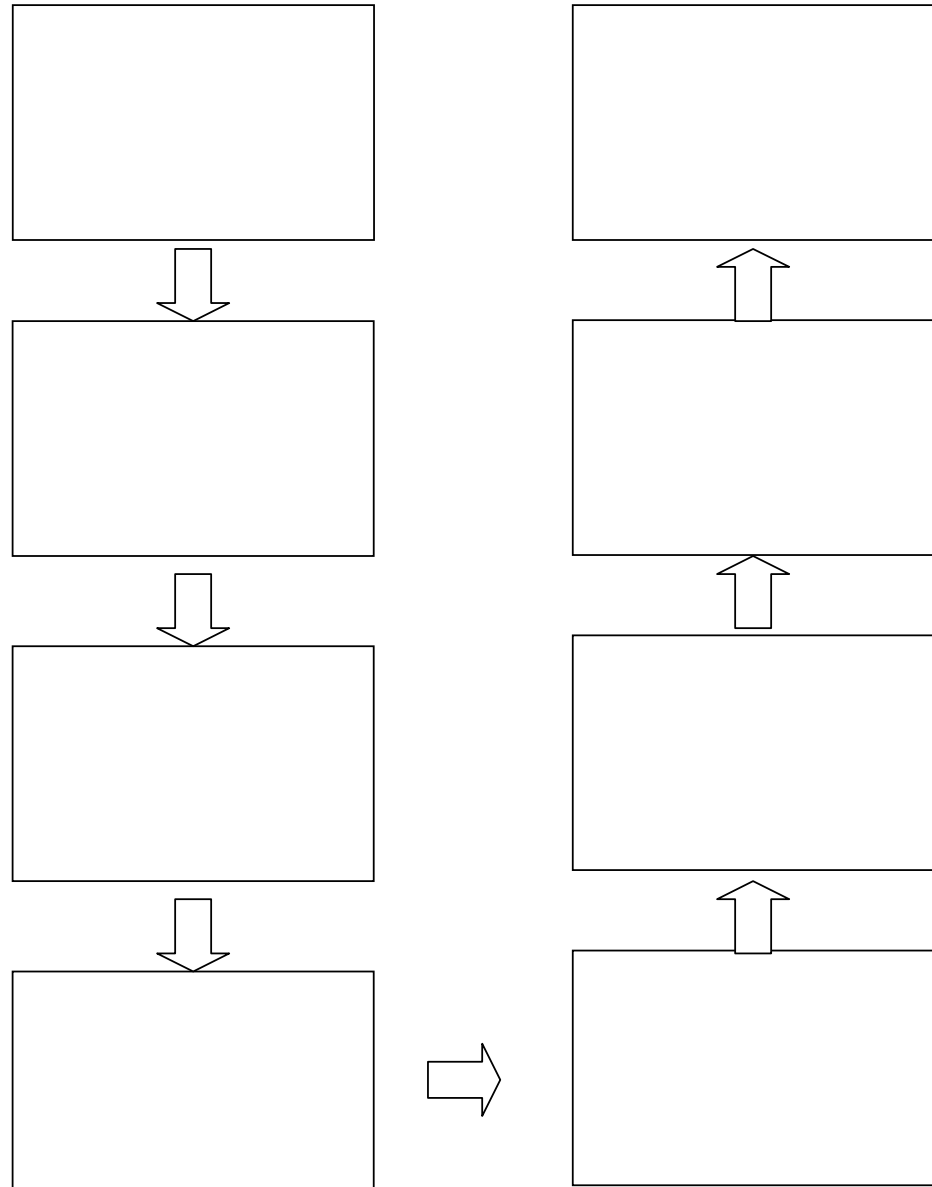
Planning

What will you need to make your design?

List it here:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Draw a flow diagram to show the order in which you will make your vehicle.



Evaluating

You said you wanted your design to do these things
(copy your design criteria here):

1. _____
2. _____
3. _____
4. _____
5. _____

How well does your vehicle do each of these things?

What do you think of the vehicle overall?

If you were making it again what would you change, and why?