



Engaging activities for **during** and **after** your visit to The MAD Museum.

NAME: _____ DATE: _____

ACTIVITY PACK
AGES 8 TO 11

THE MAD PICTURE QUIZ (1 OF 2)

Find the following items in the MAD museum and answer our questions.

Find these turning shapes.
What are they?

1

- a. Cogs
- b. Pulleys
- c. Gears
- d. Levers



2

How many cams make the serpent move in **The Serpent and the Fish**?



WRITE IT HERE

3

What do you call the handle on this **Camel** automaton?

- a. Crank
- b. Axle
- c. Cam
- c. Mechanism



5

This image shows a small part of one of our exhibits, can you find it? What makes it work?

- a. Light
- b. Water
- c. Heat
- d. Sound



The shape of the cams in this skeleton automaton (moving toy) are round.

4

TRUE

FALSE



In the rolling ball machine **PathFinder** (in a gold frame on the wall), how many routes can the balls take to reach the bottom?

6

WRITE IT HERE



THE MAD PICTURE QUIZ (2 OF 2)

7 How many bees are the runners escaping from in the automaton **Runners with Bees**?

- a. 3
- b. 6
- c. 8
- d. 5



Garden Bear is made out of recycled tin cans.

TRUE

FALSE



9 On which artist's machine can you find this MAD logo?

- a. David Williams
- b. Steve Sherwin
- c. Jelle Bakker
- d. Pascal Bettex



10 Which newspaper is the dog reading in the **Howling Dog** automaton?

WRITE IT HERE





WHAT DOES THE M.A.D. IN MAD MUSEUM STAND FOR?



FEEL THE FORCE! (1 OF 2)

Many different forces are at work in The MAD Museum: **gravity, air resistance and friction**. Look closely at our marble run displays – or build your own – then answer the questions on the next two pages.

HINT: THERE MAY BE MORE THAN ONE CORRECT ANSWER TO SOME OF THESE QUESTIONS.

1. When a marble is rolling down a slope, which forces are acting on it?

GRAVITY AIR RESISTANCE FRICTION

2. If you dropped a marble from a height onto the floor, which forces would be acting on it?

GRAVITY AIR RESISTANCE FRICTION

3. When a marble is lying on a flat surface and not moving, which forces are acting on it?

GRAVITY AIR RESISTANCE FRICTION

CHANGING PACE Using our marble run wall, make a marble roll down a sloping track.

A. How can you change the track to make it go faster? _____

B. How can you change the track to make it go slower? _____

C. How can you change the track to make it stop? _____

FEEL THE FORCE!

(2 OF 2)

MAD CHALLENGE

See if you can create a marble run that ends with your marble rolling uphill. Time how long it rolls uphill for!

SUPER SURFACES!

You made a marble run. Which surface will make your marble roll fastest?

- A.** Thick Fun Fur **B.** Shiny Metal **C.** Rough Wood

Which surface will make your marble roll slowly? Write the reason here.

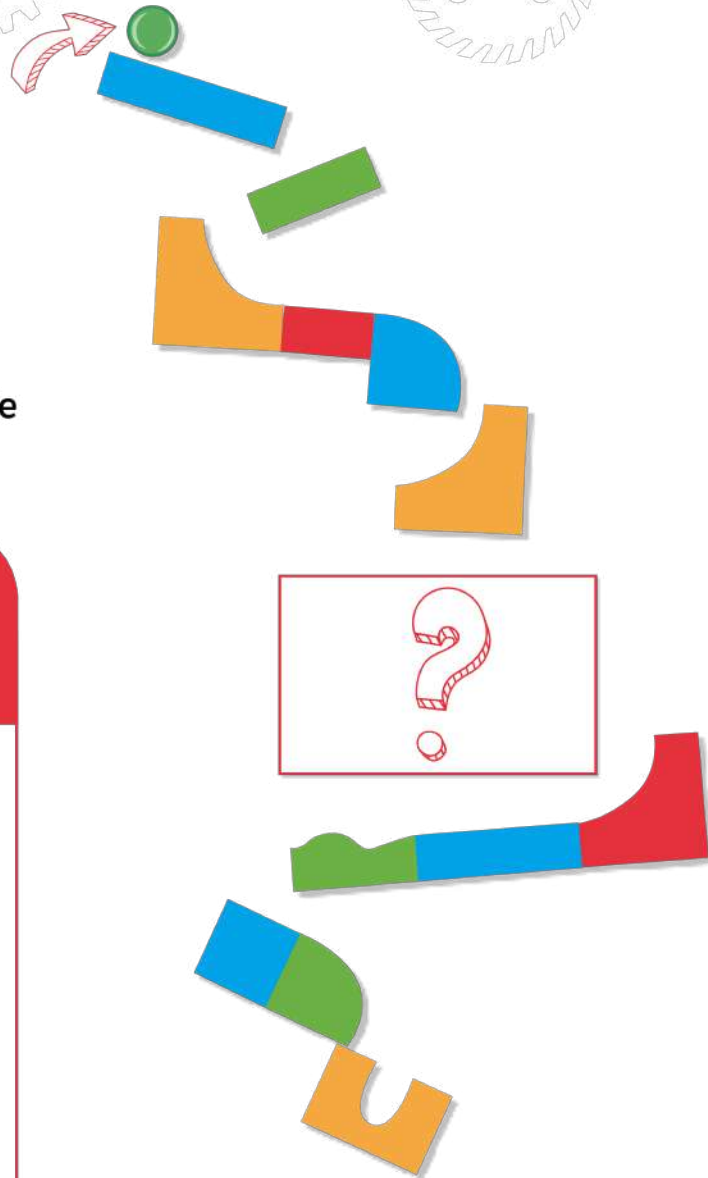
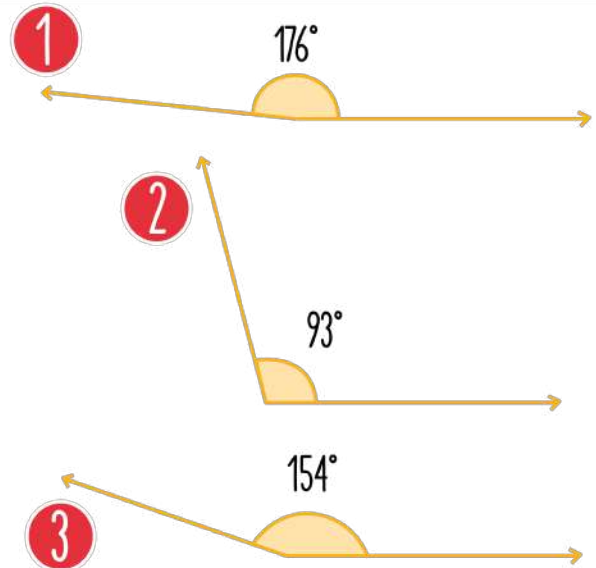
Name three other surfaces that would be good for a marble run.

1. _____
2. _____
3. _____

MARBLE RUN FUN

Our MAD Museum marble run is missing a section. Which piece will help the marble reach the bottom fastest? Circle it!

If you rolled a marble from the left-hand side of each of these angles, which one would make it roll furthest?



A



B



C

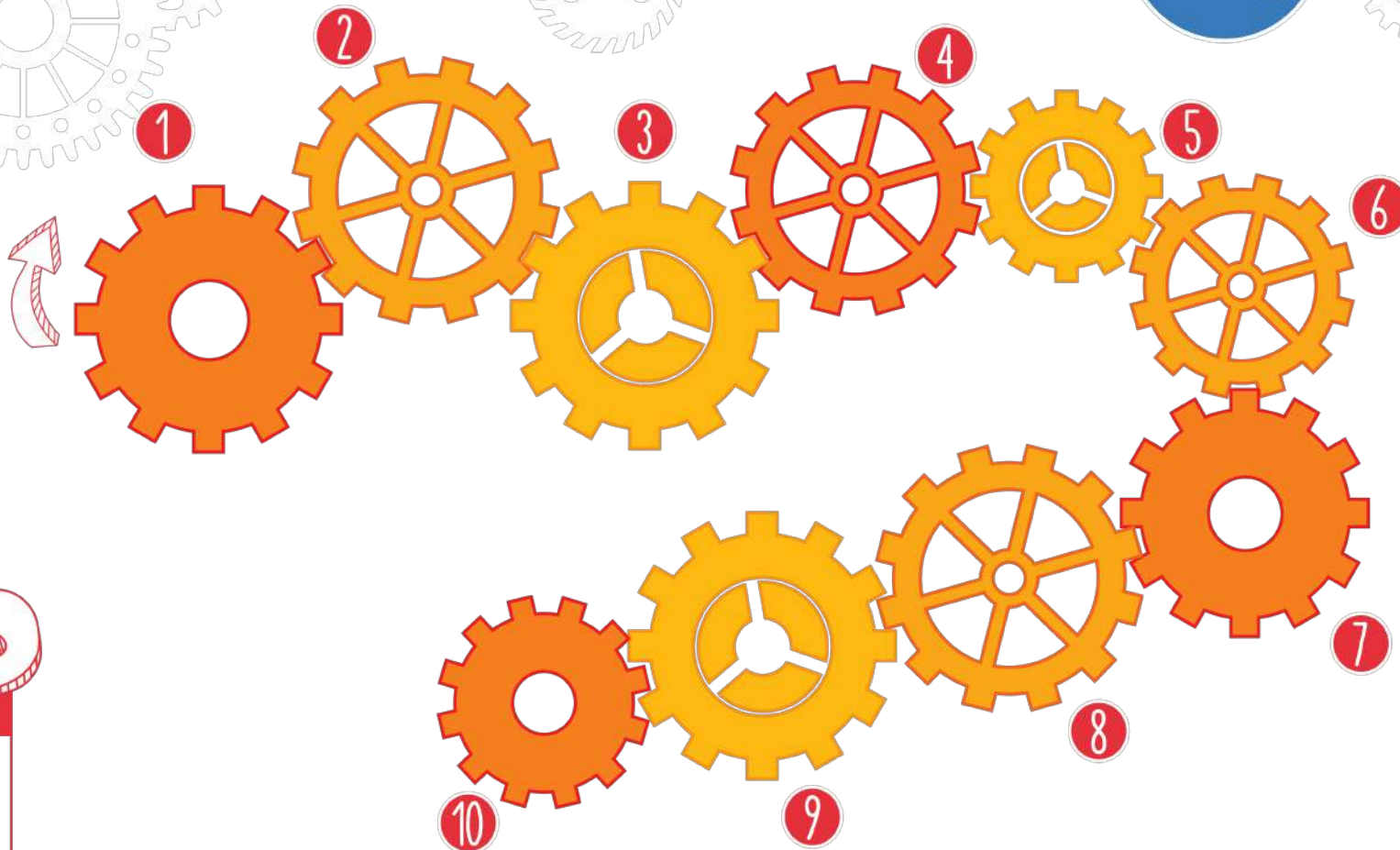


NAME THE
ANGLES TOO!



GET IN GEAR

If gear 1 turns in a clockwise direction, which way do gears 4, 7 and 10 turn? Write your answers below.



DID YOU KNOW?

Gears don't have to be circular. You will find square and oval gears at The MAD Museum!

GEAR 4: _____ GEAR 7: _____ GEAR 10: _____



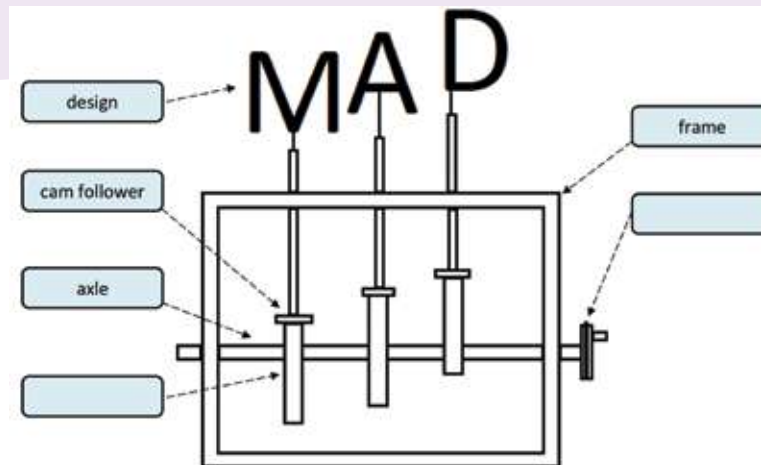
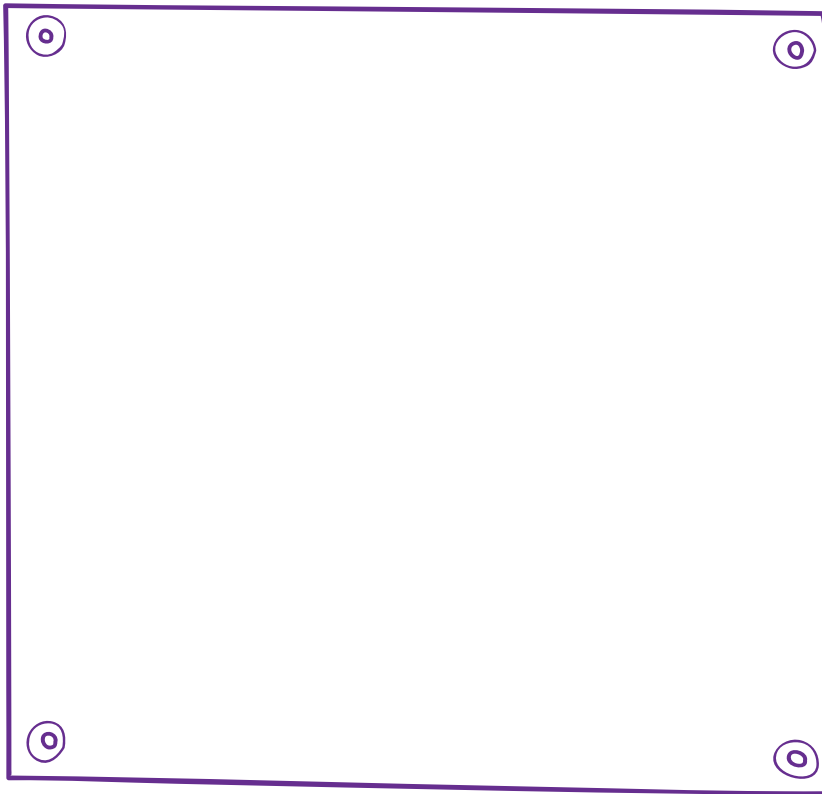
MAD ABOUT
DRAWING!

Draw your favourite MAD Museum machine here. What do you like about it?

MAKE YOUR MOVING TOY (1 OF 4)

We hope visiting The MAD Museum has inspired you to make your own automata (moving toys). Sketch your design here.

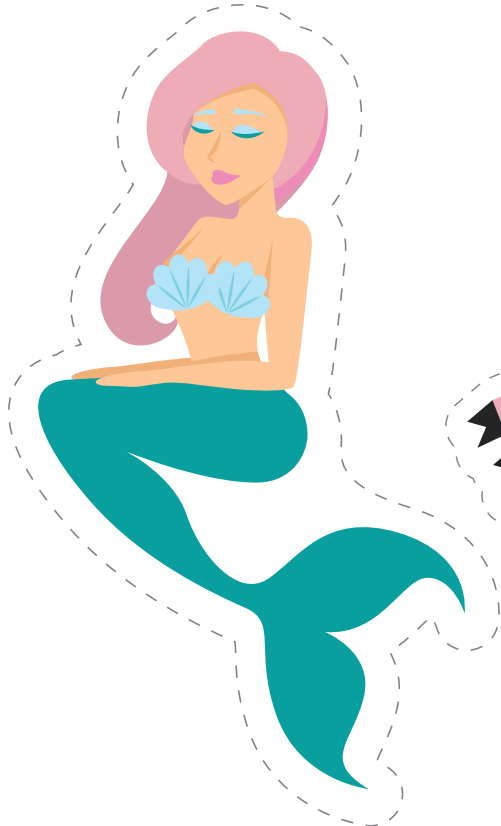
WHAT WAS YOUR FAVOURITE AUTOMATON IN THE MUSEUM? WRITE WHY HERE.



LABEL THE MISSING PARTS ON THIS MOVING TOY DIAGRAM - YOU'LL USE THEM IN YOUR DESIGN.

MAKE YOUR MOVING TOY (2 OF 4)

Look at the design you did before visiting
The Mad Museum. Can you make it better?
Draw it again if so – or cut out and use these
designs inspired by our own mechanical art.



MAKE YOUR MOVING TOY (3 OF 4)

What steps will you take to make your automaton? Describe them here as clearly as you can.

WHAT WILL YOU CALL IT?
NAME IT HERE...





Pretend your automaton is going on display at The MAD Museum.

WRITE A SENTENCE TO GO NEXT TO YOUR DISPLAY.



STEP 1. _____

STEP 2. _____

STEP 3. _____

STEP 4. _____

STEP 5. _____

STEP 6. _____

MAKE YOUR MOVING TOY (4 OF 4)

Well done! You've made your automaton.
Now evaluate your work.



1 How well do the moving parts work? Is your toy successful?



2 What do you like best about your toy? Is there anything you don't like about it?



3 What do you think about your design and decoration?

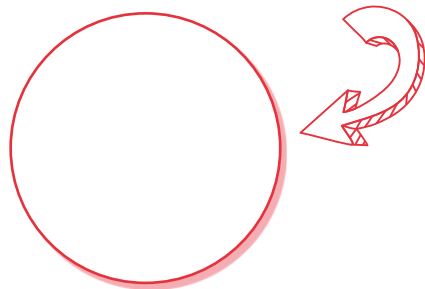


4 Were your steps easy to follow? How could you improve them?



5 What would you change if you made it again?

GIVE YOUR TOY A MARK OUT OF TEN.



WHY NOT MAKE YOUR TOY AGAIN USING CAMS WITH DIFFERENT SHAPES? HOW DOES THAT CHANGE HOW YOUR TOY MOVES?