

# Math PBL

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## Marble Run



### The Task:

To design and build a marble run that lasts a certain duration

Included Concepts:  
- Measurement  
- Able to use a ruler measure accurately  
- Understands angles and how to use them

### Requirements:

You will need to design and create a marble run that can last for longer than 30 seconds.

It can be made with cardboard and paper (any other materials need to be negotiated).

The marble run needs to have at least one type of each angle; acute, right, obtuse and reflex.

**Challenge:** Can you make a marble run that lasts for one minute?



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## Real World Mini Math Project

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### Steps to Take:

1. Sketch out a range of possible designs
2. Label the materials and angles used
3. Test out your run with a timer
4. Modify as needed
5. Record the each angle type and degrees used in your final design
6. Share with the class



### Assessment:

Concepts accurately covered	/5
All sections completed to a high standard	/5
On task work ethic	/5
Clearly shows mathematical thinking/working out	/5
Comment:	/20

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# Students Will Love!

# Detailed Student Outline with Concepts & Steps Covered



## Marble Run



### The Task:

To design and build a marble run that lasts a certain duration

- Included Concepts:
- Measurement
  - Able to use a ruler measure accurately
  - Understands angles and how to use them



### Instructions:

to design and create a marble run for longer than 30 seconds. (with cardboard and paper materials need to be negotiated). to have at least one acute, right, obtuse and ... marble run that

## Real World Mini Math

### Steps to Take:

1. Sketch out a range of possible designs
2. Label the materials and angles used
3. Test out your run with a timer
4. Modify as needed
5. Record the each angle type and degrees used in your final design
6. Share with the class



### Assessment:

Can measure with a ruler	/5
Can correctly label each angle type	/5
Can accurately use a protractor to measure and record each angle	/5
Can modify angles to help with time duration	/5
Clearly shows mathematical thinking/ working out	/5
Comment:	/20



# Easy to Use Worksheets Included

8 - 2 = 6   9 + 1 = 10   7 - 4 = 3   5 + 4 = 9

Marble Run Design/ Sketch Page

1 + 2 = 3   9 - 4 = 5   10 - 6 = 4

6 + 4 = 10



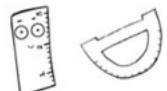
Marble Run - Angles used



Angle Name/ Type	Degrees Measured

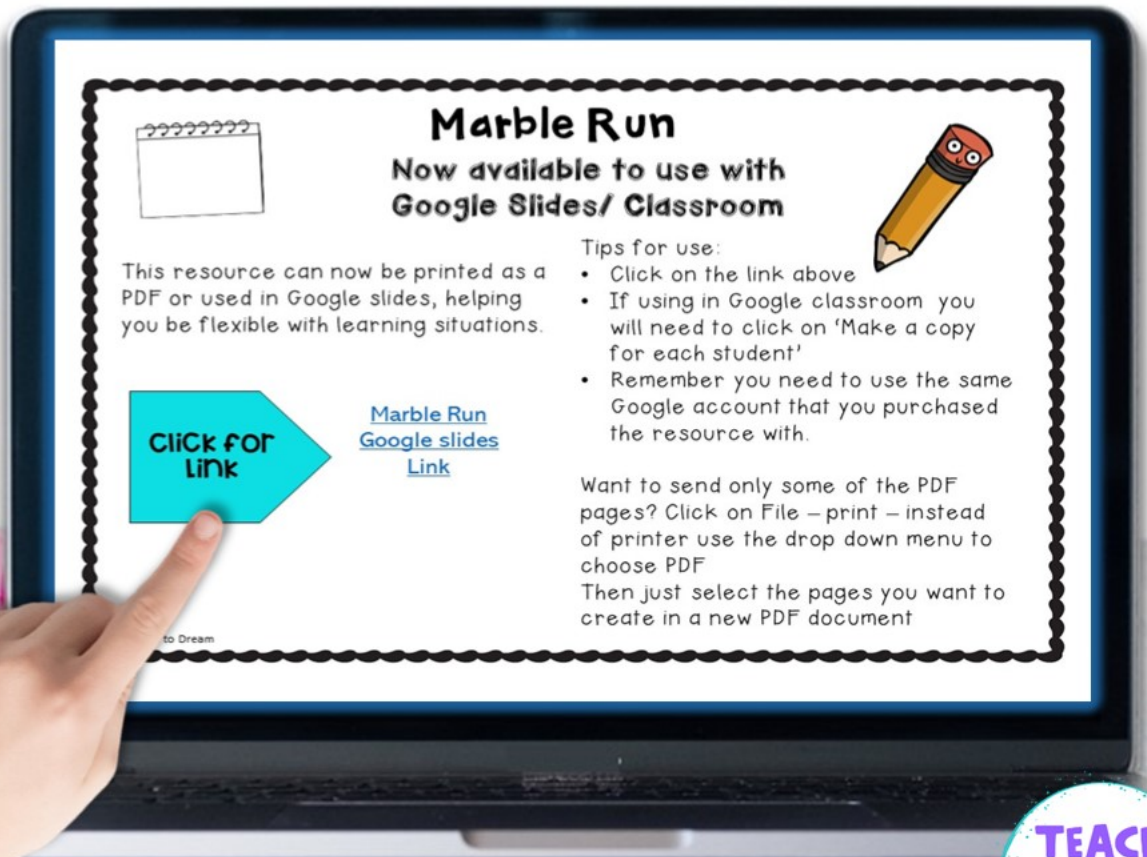


Marble Run - Angles used


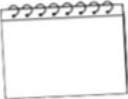


Angle Name/ Type	Degrees Measured

# Digital & Printable Google Slides Option



**Marble Run**  
Now available to use with  
Google Slides/ Classroom



This resource can now be printed as a PDF or used in Google slides, helping you be flexible with learning situations.

Click for Link

[Marble Run Google slides Link](#)

Tips for use:

- Click on the link above
- If using in Google classroom you will need to click on 'Make a copy for each student'
- Remember you need to use the same Google account that you purchased the resource with.

Want to send only some of the PDF pages? Click on File – print – instead of printer use the drop down menu to choose PDF  
Then just select the pages you want to create in a new PDF document

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# Quick Teacher & Self / Peer Assessment

## Assessment

### Mini Math Project: Marble Run

Concepts accurately covered	/5
All sections completed to a high standard	/5
Clearly shows mathematical thinking/ working out	/5
On task work ethic	/5
Total:	/20

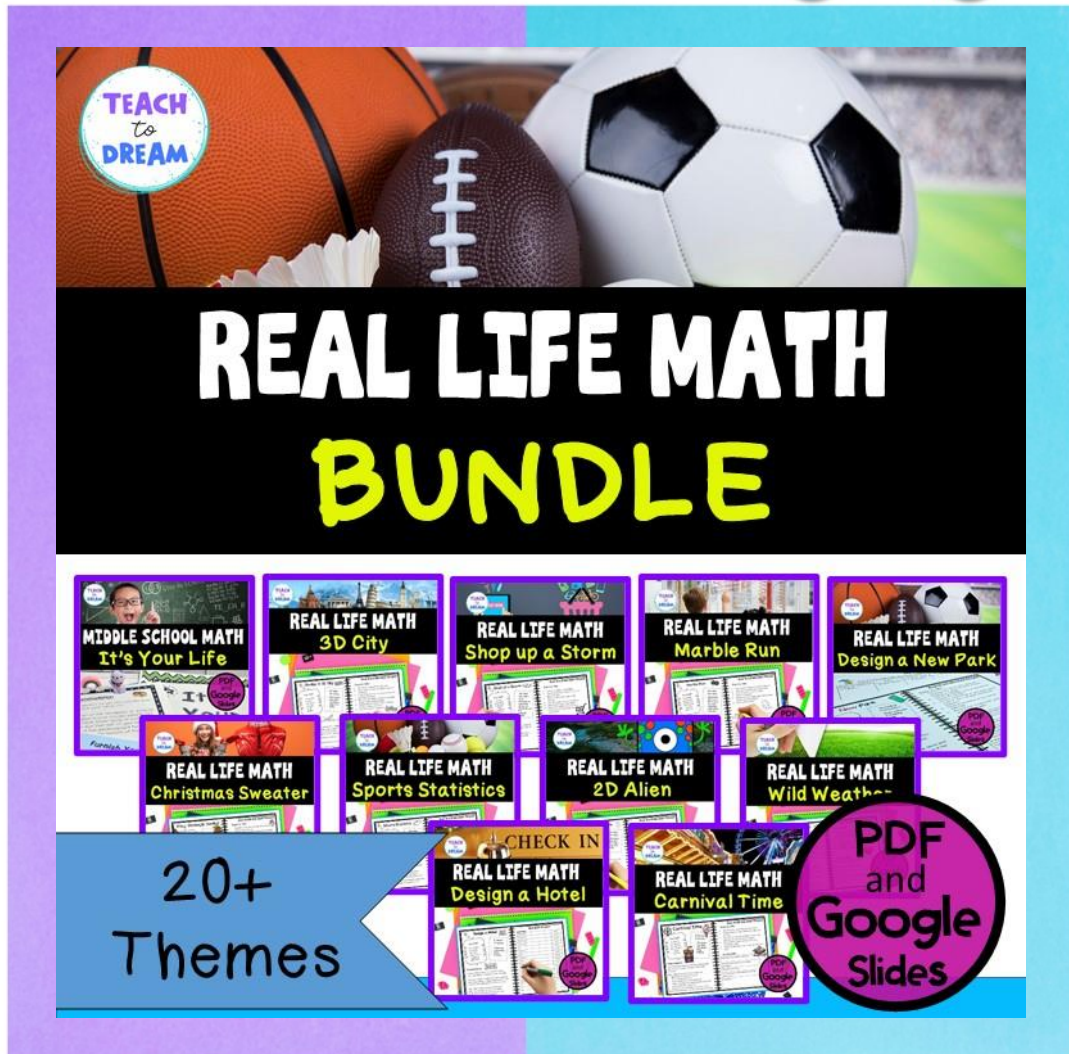
Comment:

### Self / Peer Assessment: Mini Math Project: Marble Run

Shows mathematical thinking	/5
Easy to follow/ understand	/5
Mathematical concepts are completed accurately	/5
On task work ethic during lessons/ task assignment	/5
Total:	/20

Best part of the project	Ideas for improvement

# Interested in PBL writing Tasks that Engage?



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## REAL LIFE MATH BUNDLE

MIDDLE SCHOOL MATH  
It's Your Life

REAL LIFE MATH  
3D City

REAL LIFE MATH  
Shop up a Storm

REAL LIFE MATH  
Marble Run

REAL LIFE MATH  
Design a New Park

REAL LIFE MATH  
Christmas Sweater

REAL LIFE MATH  
Sports Statistics

REAL LIFE MATH  
2D Alien

REAL LIFE MATH  
Wild Weather

20+ Themes

CHECK IN  
REAL LIFE MATH  
Design a Hotel

REAL LIFE MATH  
Carnival Time

PDF and Google Slides

The advertisement features a central image of a basketball, a football, and a soccer ball. Below this, the text 'REAL LIFE MATH BUNDLE' is prominently displayed. A collection of ten smaller images shows various math project themes, each with a title and a small '20+ topics' badge. A blue banner on the left indicates '20+ Themes', and a purple circle on the right specifies 'PDF and Google Slides'.

Click to SAVE time & Money.