

Teach
to
Dream

Real World Math Projects

Grades 3-6

3D City

Perfect for:

- * End of unit assessment
- * Fast finishers
- * Homework assignment

Task outline, Worksheets & Assessment Included!

Create a 3D City

The Task:
To create a mini city using a range of 3D shapes

Requirements:
You will need to make a mini city that includes at least 6 buildings.
The buildings need to consist of a range of 3D shapes. This may include, cube, square pyramid, cylinder, cone, rectangular prism, sphere.

Included Concepts:
- Measurement
- Name, label and create a range of 3D shapes

Steps to Take:

1. Sketch out a design for your city.
2. Check that you are including a range of 3D shapes.
3. Either draw or find the required nets to build each 3D shape individually and then attach to the city landscape.
4. Build each 3D shape of your buildings.
5. Record the features of your buildings (edges, faces, vertices).
6. Decorate your final product.

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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Create a 3D City

The Task:

To create a mini city using a range of 3D shapes

Included Concepts:

Measurement
- Measure, label and create a range of 3D shapes

Requirements:

You will need to make a mini city that includes at least 6 buildings.

The buildings need to consist of a range of 3D shapes. This may include a cube, square pyramid, cuboid, rectangular prism, cylinder, cone, triangular prism, sphere.

What special design features will you include?

Will some buildings include more than one 3D shape?

How will you plan the layout of your city?



Real World Mini Math Project

Steps to Take:

1. Sketch out a design for your city.
2. Check that you are including a range of 3D shapes.
3. Either draw or find the real world objects to build the 3D shapes.
4. Build the 3D shape individually and then attach to the city landscape.
5. Record the features of your buildings (edges, faces, vertices).
6. Decorate your final product.



Assessment:

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



Create a 3D City



The Task:

To create a mini city using a range of 3D shapes

PREVIEW

Included Concepts:

Measurement
name, label
and create a
range of 3D
shapes



Requirements:

You will need to make a mini city that includes at least 6 buildings.

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What special design features will you include?

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Real World Mini Math Project

Steps to Take:

1. Sketch out a design for your city.
2. Check that you are including a range of 3D shapes.
3. Either draw or find the required objects to build the 3D shapes.
4. Build each 3D shape individually and then attach to the city landscape.
5. Record the features of your buildings (edges, faces, vertices).
6. Decorate your final product.

PREVIEW



Assessment:

Can accurately record the name of 3D shapes	/5
Can successfully construct a range of 3D shapes from nets	/5
Can accurately record faces, edges and vertices of 3D shapes	/5
Clearly shows mathematical thinking/ working out	/5
Comment:	/20

PREVIEW

Assessment

Mini Math Project: 3D City

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

Comment:

PREVIEW

$1+2=3 \quad 9-4=5 \quad 10-6=4 \quad 8-2=6$

Self/ Peer Assessment:

Mini Math Project: 3D City

Shows mathematical thinking	1 2 3 4 5
Easy to follow/ understand	1 2 3 4 5
Mathematical concepts are completed accurately	1 2 3 4 5
On task work ethic during lessons/ task assignment	1 2 3 4 5
Total:	/20

Best part of the project	Teacher's comment
PREVIEW	

$5-4=1 \quad 7+2=9 \quad 10-7=3 \quad 1+1=2$

$2+3=5 \quad 8-6=2 \quad 3+3=6 \quad 10-7=3 \quad 1+2=3$

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

3D City Design Page

PREVIEW

PREVIEW

PREVIEW

PREVIEW

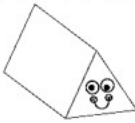
$8 - 2 = 6$ $9 + 1 = 10$ $7 - 4 = 3$ $5 + 4 = 9$

$1 + 2 = 3$ $9 - 4 = 5$ $10 - 6 = 4$

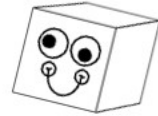
$3 + 5 = 8$ $7 - 3 = 4$ $6 + 4 = 10$

$1 + 4 = 5$ $10 - 7 = 3$ $9 = 2 + 7$

$5 - 4 = 1$



Sketch of Each 3D Building



PREVIEW



Shapes used:



Shapes used:



PREVIEW

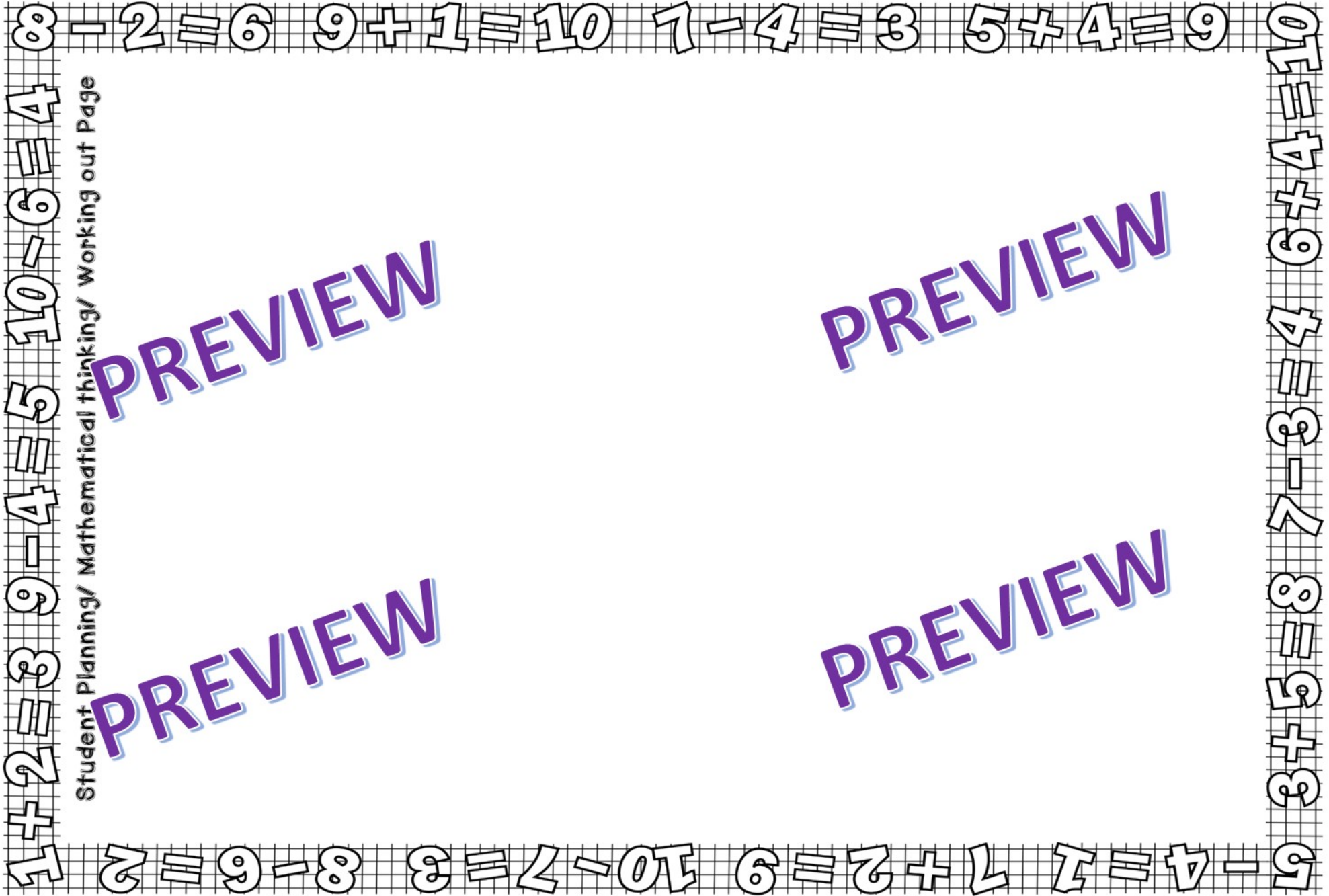
Shapes used:



Shapes used:

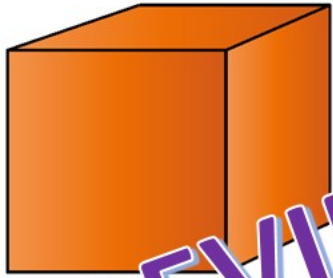


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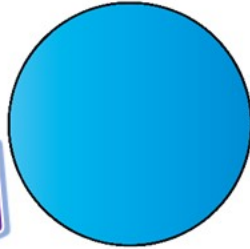


Student Planning/ Mathematical thinking/ Working out Page

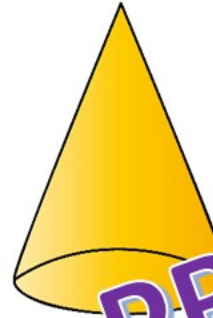
3D Shapes



PREVIEW



Sphere



Cone

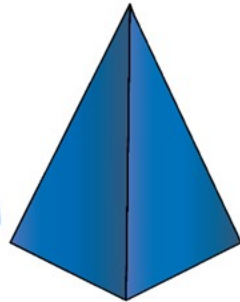


Cylinder

PREVIEW



PREVIEW
Cuboid
Rectangular
Prism



Triangular
Based
Pyramid



Square
Based
Pyramid



Triangular
Prism

PREVIEW



Record of each 3D shape used in Your City Planning



Shape Name	Number of faces	Number of edges	Number of vertices

PREVIEW

PREVIEW

PREVIEW

PREVIEW



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