Math 8E: Unit 7 Measurement

|  |  |
| --- | --- |
| * 1. Perimeter and area | -handout |
| * 1. Surface area and volume of rectangular solids | -WB pg 52 #1, 2, 3(a-d), 4(a-g, 5, 6, 9, 10 |
| * 1. Surface area and volume of prisms | -WB pg 59 #1-9 |
| * 1. Pyramids | WB pg 64 #2, 3abc, 8, 9, 11, 14 |
| * 1. Cylinders and cones | WB pg 72 #1abdefh, 2, 8, 18 |
| * 1. spheres | -round fruit/fruit peeler, compass  -WB pg 79 #1-3, 5, 10 |
| * 1. review |  |

1. Test

Math 8E: Unit 7.1 Perimeter, Circumference and Area

1. Vocabulary

|  |  |  |
| --- | --- | --- |
| word | definition | Example |
| Perimeter |  |  |
| area |  |  |
| Circumference |  |  |
| Diameter |  |  |
| Radius |  |  |

1. Find the perimeter and area of these shapes:

1. In your group, pick 4 out of 8 objects below, fill in the chart, and show your results on the board.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Circumference of object (cm) | Diameter of object  (cm) |  |
| Pot lid |  |  |  |
| Orange |  |  |  |
| Tennis ball |  |  |  |
| Basketball |  |  |  |
| Plastic plate |  |  |  |
| Fan |  |  |  |
| Cup |  |  |  |
| Duct tape roll |  |  |  |

1. Average your results of C/d. What is it?

1. 'Pi' is about 3.1415, and is called a constant. Why?

1. Opinion: Are mathematical ideas like 'pi', the Fibonacci sequence, acceleration due to gravity, invented or discovered?

-handout

-quiz next day

Math 8E: Unit 7.2: Surface area and Volume of Rectangular Solids

1. In your groups, complete the table:

|  |  |
| --- | --- |
| object | Surface area |
|  |  |
|  |  |

-if you notice from the above objects, you can use regular 2-D formulas to find the area of 3-D objects.

1. What are 'nets'?

-a net is a 2-D pattern of a 3-D figure that can be folded to form the figure.

Ex: -in your group, draw the net of your given 3-D shape.

1. How can we use nets to find the surface area of rectangular solids?

1. How do we find volume of rectangular solids?

-volume: amount of space and object (usually solid) takes up.

-do: WB pg 53 #1, 2, 3(a-d), 4(a-g), 5, 6, 9, 10

Note: watch out for overlapping sides…don't count the area of the overlapped side as we do not 'see' it.

 Ex:

Math 8E: Unit 7.3: Surface Area and Volume of Prisms

* 1. What is a prism?

-has 2 characteristics: i) congruent (equal) top and bottom faces(also called bases) that are parallel polygons(e: triangles, squares, rectangles, etc)

ii) all the remaining faces are parallelograms (usually rectangles)

Ex:

* 1. How to find the surface area of prisms?

-add up the area of the sides

* 1. How to find the volume of prisms?

V = (area of base) x height

Ex:

Ex:

-do handout(volume of rectangular prisms; volume and surface area of triangular prisms)

-optional: WB pg 59 #1

Math 8E: Unit 7.4: Surface area and Volume of Pyramids

* 1. Surface area of square based Pyramid

* 1. How to find the volume of a pyramid?

 -handout, WB pg 65 #2, 3abc

Math 8E: Unit 7.5: surface area and volume of cylinders and cones

* 1. Cylinders

* 1. What does it look like?

ii) So, I know what the net of a cylinder looks like, what is the formula to find its surface area?

Ex:

Ex:

iii) How to find the volume of a cylinder?

Ex:

* 1. Cones

i) what does it look like?

ii) how to find the surface area of a cone?

Ex:

iii) how to find the volume of a cone?

Ex:

-handout (pg 278 from Mathpower 9)

Math 8E: Unit 7.6: Surface area and Volume of Spheres

* 1. Surface area of Spheres:

-from our experiment, what is the formula to find the surface area of spheres?

Ex:

Ex:

Ex:

* 1. How to find the volume of spheres?

Ex:

Ex:

-next: review, pretest, corrections, test