

Percentages Internet Research Activities - ANSWERS

Answer the following questions by making a Powerpoint Slide for each answer. Include clip art and pictures to make the answers more meaningful.

Q 1 What is a “percentage point” ?

Answer: *Percentage points (pp) are the unit for the arithmetic difference of two percentages. Eg. Interest Rates going up from 14% to 15% is an increase of 1 percentage point.*

Q 2 What is “Baker Percentage” ?

Answer: *from Wikipedia*

Baker percentage, sometimes called formula percentage[1], is a way of indicating the proportion of ingredients when making bread. The "percentage" is in fact a ratio where the mass of the ingredients are expressed in terms of the mass of the flour used (that is, the unit mass). For example, if a recipe calls for 10 pounds of flour and 5 pounds of water, the corresponding percentages will be 100% and 50%.

Common formulations for bread include 100% flour, 60% water/liquid, 1% yeast, 2% salt and 1% oil, lard or butter.

In addition, the baker percentage enables the user to more accurately compare recipes (i.e. which is drier, saltier, sweeter, etc.).

Bread recipes are more conveniently expressed in this manner, using mass instead of volume measurements. The uncertainty in using volume measurements follows from the various ways flour is ground, how it occupies the measuring cup etc.

Q 3a) What is a “percentile” ?

Answer: *a percentile (or centile) is the value of a variable below which a certain percent of observations fall. So the 20th percentile is the value (or score) below which 20 percent of the observations may be found.*

3b) Doctors often use infant and children's weight and height percentiles to check their growth compared to national averages.

Find out what the median 50th percentile height is for a 14 year old girl using a chart from the internet.

Answer: *There is a good chart at: <http://www.chartsgraphsdiagrams.com/HealthCharts/height-2-20-girls.html> that shows the answer as: 160cm.*

Q 4) Find an **Online Percentage Calculator**. Do some calculations on it, take a Print Screen, and use Ctrl-V to paste it into our powerpoint slide.

Answer: *There is a good calculator at: <http://www.onlineconversion.com/percentcalc.htm>*

Percentages Internet Research Activities - ANSWERS

Australia's Population

Wikipedia supplies the %'s of Population living in State Capitals for Australia. (and also % pop by age) (and also ancestry %'s) http://en.wikipedia.org/wiki/Demographics_of_Australia

Type "demographics of australia" into Google, to find the Wikipedia page about Australia's Population, and then answer these questions:

Q5 a) Which three Australian states and territories have the lowest percent of their state's population living in the capital city of the state?

Answer: *NT, QLD, TAS.*

5b) Which city has the higher population percent: Melbourne or Adelaide?

Answer: *Adelaide*

5c) What % of Australia's population is 0-14 years old ?

Answer: *18.9%*

5d) Which country has the highest population growth rate: USA, Canada, or Australia ?

Answer: *Australia = 1.7%*

5e) What percentage of Austalians are of the following ancestories: Irish, Scottish, Itlaian, German ?

Answer: *Irish (9.08%) Scottish (7.56%) Italian (4.29%) German (4.09%)*

DRY HOT DESERTS

Q 6a) Which has the higher percentage of desert area: Africa or Australia ?

(Include the actual % values as part of your answer).

Answer: *Africa is around 70% desert or drylands. 44% percent of Australia is desert.*

6b) What percentage of the African country "Niger" is covered by the Sahara Desert?

Answer: *Niger covers a land area of almost 1,270,000 km², over 80 percent of which is covered by the Sahara desert.*

INTERESTING PERCENTAGES

- A jellyfish is 95 percent water.
- More than 50% of the people in the world have never made or received a telephone call.

Q 7) Search the Internet to find two or three other interesting percentages.

Answers: *Many are possible, here are some:*

Only 55 percent of all Americans know that the sun is a star.

About 70 percent of Americans who go to college do it to make more money.

44% of kids watch television before they go to sleep.

70% of an adult's body is made up of water.

There are some ice creams that are 75% air.

Percentages Internet Research Activities - ANSWERS

PERCENTAGE FOR AFL Football Teams

The percentage determines the position on the ladder of two teams of equal winning games points.

Q 8) How is this percentage value is calculated ?

Answer: *Take the total points FOR, divide them by the points AGAINST, and then multiply that answer by 100. For example Saint kilda in 2009: The total points they have scored this season is 825. and the total points scored against them is 535. so you go $825 / 535 = 1.54$. then you go $1.54 \text{ times } 100 = 154\%$.*

Chemical Composition of Metals

BRASS:

Brass is a metal and can be used for a wide range of different uses such as making musical instruments, doorknobs, mailboxes, trophies, and ornaments.

US Navy sailors wear brass belt buckles because brass will not spark if scratched, as some other metals do.

Q 9) What is Brass made out of ? (eg. Which metals, and what are their percentages) .

Answer: *63% copper and 37% zinc*

BRONZE:

Humans have been working with for over 3,000 years in various parts of the world, using it for weapons, coins, church bells, tableware, and an assortment of other household purposes.

Q 10) What is Bronze made out of ?

Answer: *Bronze is made by smelting copper and tin together. When bronze is cast for use in statues, it contains between two and 20% tin, while bells use a higher percentage of tin: 15-20%.*

GOLD in Jewellery and Dentistry

The following website:

<http://www.csudh.edu/oliver/chemdata/alloys.htm>

has a percentages table for how to make metal alloys, but uses chemical symbols, like Au=Gold, for the metals.

It has most metal alloys listed in it, including lots of different types of gold.

Pure Gold is too soft and bendable, and also scratches easily. Pure Gold has to be mixed with other metals before it is made into Jewellery. This mixing is called making an "Alloy" .

Depending on the percentages of the mixture, different types of gold are made.

Percentages Internet Research Activities - ANSWERS

For example:

14 carat gold = 58.33% Gold, 14% to 28% Copper, and 4% to 28% Silver

White Gold = 75 to 85% Gold, 8 to 10% Nickel, and 2 to 9% Zinc.

Q 11a) Find FIVE other types of gold and list their percentage compositions.

The chemical symbols for the metals are these:

Au=Gold, Ag=Silver, Cu=Copper, Co=Cobalt, Fe=Iron, Mn=Manganese Ni=Nickel, Pt=Platinum, Pd=Palladium, Zn=Zinc.

ANSWERS:

67Au, 8-27Cu, 6.6-26Ag - Gold 16 carat.

62.5Au (min), 13Cu, 11Ag - Gold 15 carat

58.33Au, 14-28Cu, 4-28Ag - Gold 14 carat

50Au, 50Cu - Dark red gold

50Au, 35Cu, 15Ag - Gold solder 12 carat

42Au, 38-46Cu, 12-20Ag - Gold 10 carat

86Au, 5.7-17Fe, 0-8.6Ag - Gray gold

75Au, 25Fe - Blue gold

75-85Au, 8-10Ni, 2-9Zn - White gold

90Au, 10Pd - White gold, palladium gold

60-90Au, 10-40Pd - Rhotanium

80Au, 20Pd - Palau

60Au, 40Pt - Platinum gold, white

92Au, 4.9Ag, 31Cu - Gold 22 carat dental, dark

91.66Au, 4.16Ag, 4.16Cu - Gold 22 carat

92Au, 0-8.3Ag, 0-8.3Fe - Pale yellow gold

84Au, 8.3-11Ag, 6-8.3Cu - Gold 20 carat

75Au, 17Ag, 8.3Cu - Gold sonler 16 carat

75Au, 10-20Ag, 5-15Cu - Gold 18 carat.

63-75Au, 13-31Ag, 6.3-12Cu - Gold solder 18 carat

Percentages Internet Research Activities - ANSWERS

70Au, 25Ag, 5Ni, or Pt - Platinum substitute, electrical

68Au, 25Ag, 7.5Pt - Platinum substitute, electrical

63Au, 23Ag, 15Cu - Gold solder, best

58Au, 30Ag, 12Cu - Gold 14 carat dental

55Au, 32Ag, 14Cu - Gold solder, easy melt

50 Au, 33Ag, 17Cu - Gold solder 14 carat

41Au, 37Ag, 21Cu, 0.6 brass - Gold solder 10 carat

40Au, 37Ag, 23Cu - Gold solder 8 carat

Q 11b) Use the internet to find out the current price of pure gold.

ANSWER: *Around \$1100 to \$1200 Australian Dollars.*

Q 11c) Which is the more expensive gold alloy – “18carat Gold” or “Gray Gold” ?

ANSWER: *Gray Gold because it is 86% gold, whereas 18 carat is only 75% gold.*

Silver in Jewellery and Table Ware

Use the Alloys table at: <http://www.csudh.edu/oliver/chemdata/alloys.htm> or something similar to look up the percentages of the metals in each alloy.

Q 12 a) What is the difference between "Chinese Silver" and "German Silver" ?

Answer: *German Silver doesn't have any silver in it!!, although Chinese Silver only has 2% silver anyway. 60Cu, 25Zn, 15Ni - German silver 58Cu, 17.5Zn, 11.5Ni, 11Co, 2Ag - Chinese silver*

12 b) What metal is mixed in with silver to make "Sterling Silver" that is used for jewellery and tableware?

Answer: *Cu=Copper*

12 c) Which type of Silver contains more pure silver metal in it: Britannia Silver or Sterling Silver?

Answer: *95.84Ag, 4.16Cu - Britannia Silver <<< This one has more silver. 92.5Ag, 7.5Cu Standard (sterling) silver*

BODY FAT PERCENTAGE

A Skin Pull Caliper Test with a lookup table can enable you to determine your "Body Fat Percentage".

There is a good set of colored charts for Body Fat at this web location:

<http://www.calculatebodyfatpercentage.com/calculate-body-fat-percentage.gif>

Use this one, or else use Google Images to find a similar chart or graph of body fat percentages.

Percentages Internet Research Activities - ANSWERS

Q 13 a) What is the healthy body weight percentage for people in their 20's ?

Answer: 8 to 20% men, 21 to 33% for women.

13 b) Why is the healthy body fat percentage for women always higher than that for men ?

Answer: Women require more body fat for Child Bearing purposes.

HEART RATE PERCENTAGES

There is actually a certain speed we are supposed to get our heart up to, for exercise to be beneficial.

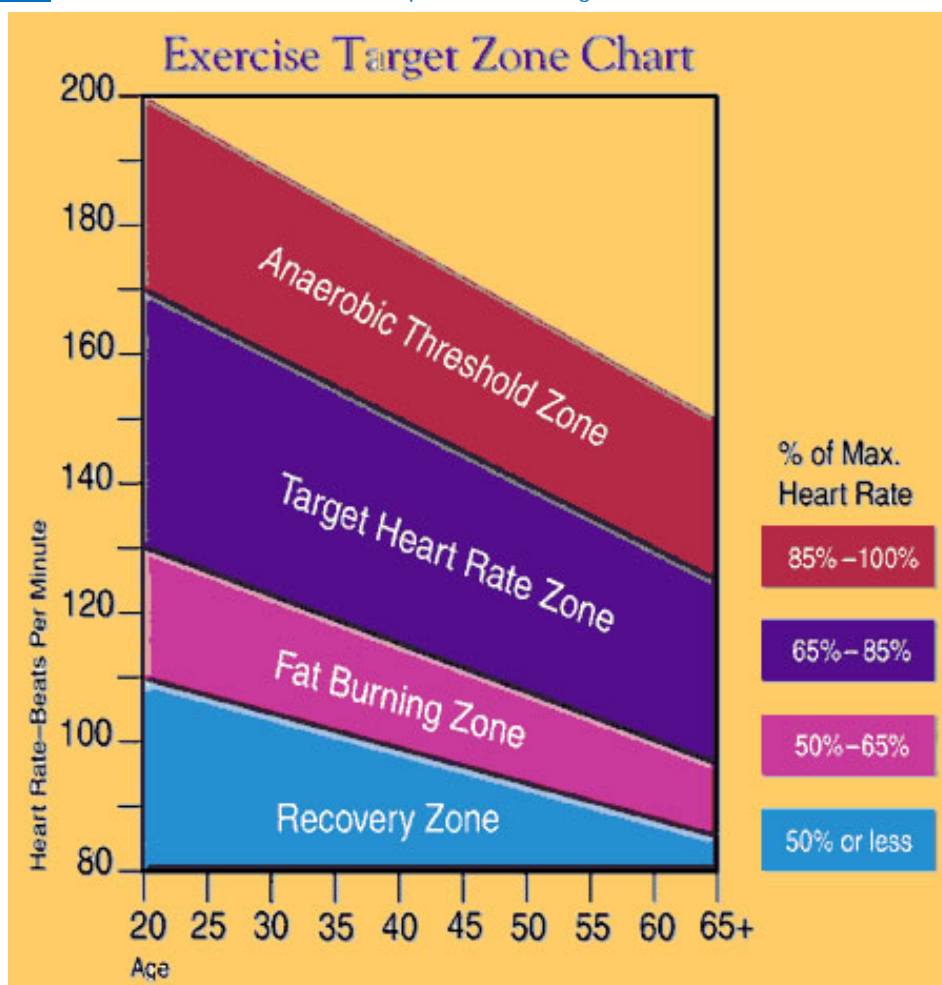
This heart rate is often called our "Training Heart Rate", or "Target Heart Rate".

The basic mathematics behind this is that your Maximum Heart Rate (MHR) is 220 minus your age.

You then need to workout below this rate at a "Target Heart Rate" that is a certain % of your MHR.

Q 14) Use Google to look up "Training Heart Rate" and find out the specific % vaules that can be used for effective exercising.

Answer: see the chart below: from <http://www.healthgoods.com>



Percentages Internet Research Activities - ANSWERS

HOW COUNTRIES SPEND THEIR MONEY:

Use the interactive map at the website:

<http://www.visualeconomics.com/how-countries-spend-their-money/>

to answer the following questions:

Q15 a) Name three countries who spend less than 5% of their money on Military.

Answer: *Mexico, Nicaragua, Germany, Mexico.*

15b) Name three countries who spend more than 17% of their money on Health.

Answer: *Canada, USA, Japan, Germany.*

15 c) Which country spends the most money on Health

Answer: *USA*

15 d) Which countries spend more than 24% of their money on Education?

Answer: *Mexico. Thailand, Morocco*