Y10 BTEC PE REVISION PACK

Name:

|  |  |  |
| --- | --- | --- |
| **SKILL components of fitness** | **Definition** | **Who would need it? Give a specific example.** |
| **Power** | **Is a combination of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and**    **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
| **Coordination** | **The ability to…**  **The three types of coordination are:** |  |
| **Reaction time** | **The time taken to…** |  |
| **Agility** | **The ability to...** |  |
| **Balance** | **The ability to…**  **The two types of balance are:** |  |

**SKILL COMPONENTS OF FITNESS (POWER- CRAB)**

|  |  |  |
| --- | --- | --- |
| **PHYSICAL components of fitness** | **Definition** | **Who would need it? Give a specific example.** |
| **Aerobic endurance** | **The ability to…** |  |
| **Body composition** | **The ratio of…** | **A person who would need a large fat mass is:**  **A person who would need a low fat mass is:** |
| **Muscular endurance** | **The ability to…** |  |
| **Muscular strength** | **Applying maximum…** |  |
| **Flexibility** | **The ability to have a…** |  |
| **Speed** | **The ability to cover a…** |  |

**Physical components of fitness (A Big Man Must Fill Shoes)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Fitness test** | **Component of fitness tested** | **Description / how to set up / equipment needed** | **Advantage/Disadvantage** |
| **The multi stage fitness test (Bleep test)** |  | **Equipment needed: cones, tape measure, audio equipment** | **Advantage:**  **Disadvantage:** |
| **The forestry step test** |  | **Equipment needed: steps, audio equipment** | **Advantage:**  **Disadvantage:** |
| **The one minute sit up test / press up test** |  | **Equipment needed: stopwatch, mat, assistant** | **Advantage:**  **Disadvantage:** |
| **The hand grip dynamometer test** |  | **Equipment needed: hand grip dynamometer** | **Advantage:**  **Disadvantage:** |
| **The sit and reach test** |  | **Equipment needed: sit and reach box, assistant** | **Advantage:**  **Disadvantage:** |
| **The 35m sprint test** |  | **Equipment needed: stopwatch, tape measure, cones, assistant** | **Advantage:**  **Disadvantage:** |
| **The vertical jump test** |  | **Equipment needed: vertical jump board, chalk, assistant** | **Advantage:**  **Disadvantage:** |
| **The illinois agility test** |  | **Equipment needed: cones, tape measure, stop watch, assistant** | **Advantage:**  **Disadvantage:** |
| **BMI**  **(Body Mass Index)** |  | **Equipment needed: scales, tape measure** | **Advantage:**  **Disadvantage:** |
| **Skinfold test** |  | **Equipment needed: skin fold callipers, assistant, pen for marking skin** | **Advantage:**  **Disadvantage:** |
| **BIA**  **(Bioelectrical Impedance Analysis)** |  | **Equipment needed: BIA analyser, alcohol wipes, electrodes, assistant** | **Advantage:**  **Disadvantage:** |

**Fitness testing**

|  |
| --- |
| 20 |
| 19 |
| 18 |
| 17 |
| 16 |
| 15 |
| 14 |
| 13 |
| 12 |
| 11 |
| 10 |
| 9 |
| 8 |
| 7 |
| 6 |

MAXIMUM exertion (CANNOT DO ANYMORE)

**Maximum heart rate**

The safe maximum heart rate for an individual.

**To work out maximum heart rate:**

**220 – age**

E.g.

Harry is 26, his maximum heart rate would be 220 – 26 = 194 BPM

**The Borg scale**

Estimates how hard a person is working.

They would point at the scale to give their RPE.

**RPE = Rating of Perceived Exertion**

To estimate a persons heart rate using the Borg scale, multiply the RPE by 10.

E.g. Matt points to number 11 on the Borg scale whilst exercising, we can estimate his heart rate at that point to be 11 x 10 = 110 beats per minute.

**HAVEA GO!**

**Molly is 17. Work out her aerobic training zone.**

**FITT Principles**

**F**

**I**

**T**

**T**

Write down what each letter stands for and what it means.

No exertion (NOT HARD AT ALL)

To improve aerobic endurance, you need to get work with your heart rate in the **aerobic training zone.**

**This is 60-85% of your maximum heart rate.**

*(Max HR / 100) X 60 = 60%*

*(Max HR / 100) X 85 = 85%*

To improve your anaerobic endurance, you need to work with your heart rate in the **anaerobic training zone.**

**This is 85-100% of your maximum heart rate.**

(Max HR / 100) X 85 = 85%

Max HR = 100%

|  |  |  |
| --- | --- | --- |
| **Additional Principle of Training** | **Definition** | **Example** |
| S | This means you must keep the training… |  |
| P | This means to make training… |  |
| A | This means how the body… |  |
| R  + R | This means… |  |
| R | This means that fitness levels will be lost if… |  |
| I | Training must change depending on… |  |
| V | This means to change the type of training to… |  |

Example: Anna is 25 with low fitness levels and wants to improve her aerobic fitness for an upcoming running race. In the example column explain how you would apply that principle of training.

Additional Principles of Training

|  |  |  |
| --- | --- | --- |
| **Training method** | **Characteristics (describe it)** | **Who’s it good for? And why?** |
| **Circuit** | A series of \_\_\_\_\_\_\_\_\_\_\_\_ which… |  |
| **Continuous** | Training for at least \_\_\_\_\_ minutes. This improves your \_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be done by… |  |
| **Interval** | A period of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ followed by a period of \_\_\_\_\_\_\_\_\_\_\_\_\_. |  |
| **Fartlek** | A type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ training that focuses on changing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and  \_\_\_\_\_\_\_\_\_\_\_\_\_\_. |  |
| **Weight** |  |  |
| **Flexibility** | Ballistic:  PNF:  Active/Passive: |  |
| **Speed** | Acceleration sprints:  Interval sprints:  Hollow sprints: |  |
| **Plyometric** | Involves muscles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quickly. Is mainly used  to improve… |  |

**Training methods**

**FLASH CARDS**

|  |  |
| --- | --- |
| **What is AEROBIC ENDURANCE?**  **Give an example of a sports person who uses this component** | **What is MUSCULAR ENDURANCE?**  **Give an example of a sports person who uses this component** |
| **What is STRENGTH?**  **Give an example of a sports person who uses this component** | **What is SPEED?**  **Give an example of a sports person who uses this component** |
| **What is FLEXIBILITY?**  **Give an example of a sports person who uses this component** | **What is BODY COMPOSITION?**  **Give an example of a sports person who uses this component** |
| **What is AGILITY?**  **Give an example of a sports person who uses this component** | **What is REACTION TIME?**  **Give an example of a sports person who uses this component** |
| **What is COORDINATION?**  **Give an example of a sports person who uses this component** | **What is POWER?**  **Give an example of a sports person who uses this component** |
| **What is BALANCE?**  **Give an example of a sports person who uses this component** | **What are the 6 PHYSICAL components of fitness?**  **What are the 5 SKILL related components of fitness?** |

|  |  |
| --- | --- |
| What component of fitness does **Continuous**  training improve? | What type of athlete would use **Continuous**  training? |
| What are the key characteristics of **Continuous**  training? | What is the advantages of **Continuous**  training? |
| What are the disadvantages of **Continuous**  training? | Give a specific sporting example of how an athlete would use  **Continuous** training? |
| What component of fitness does **Fartlek**  training improve? | What type of athlete would use **Fartlek** training? |
| What are the key characteristics of **Fartlek**  training? | What is the advantages of **Fartlek**  training? |
| What are the disadvantages of **Fartlek**  training? | Give a specific sporting example of how an athlete would use  **Fartlek** training? |

**Fill in the table to match the component of fitness to the fitness test and training method(s).**

**There may be more than one training method for each component.**

|  |  |  |  |
| --- | --- | --- | --- |
| Component of fitness | Sporting Example | Fitness Test | Training method |
| P |  |  |  |
| C |  | X | X |
| R |  | X | X |
| A |  |  | X |
| B |  | X | X |
| A |  |  |  |
| B |  |  |  |
| M |  |  |  |
| M |  |  |  |
| F |  |  |  |
| S |  |  |  |

* Vertical jump test
* Multistage fitness test
* 1 minute sit up test
* Body Mass Index
* Forestry step test
* Sit and reach test
* 35m sprint test
* Illinois agility test
* Hand grip dynamometer
* Skinfold test
* Bio-electrical Impedance Analysis
* Continuous training
* Interval Training
* Fartlek training
* Weight training
* Circuit training
* Flexibility training (Active and passive, PNF, ballistic)
* Speed training (Hollow sprints, acceleration sprints, interval sprints)
* Plyometric training

**BODY COMPOSITION**

**Definition -**

**Sporting Examples –**

**HIGH FAT LOW FAT HIGH MUSCLE**

**Skinfold Calliper Test**

**BIA**

**(Bioelectrical Impedance Analysis)**

**BMI**

**(Body Mass Index)**

**Definition -**

**Sporting Examples -**

**Multi-Stage Fitness Test**

**Forestry Step Test**

**AEROBIC ENDURANCE**

**Definition -**

**Sporting Examples -**

**1 minute Press up Test**

**1 minute Sit up Test**

**MUSCULAR ENDURANCE**

**Balance**

**Coordination**

**Definition –**

**Static Balance –**

**Dynamic Balance -**

**Sporting Examples -**

**Reaction time**

**Definition –**

**Sporting Examples -**

**Definition –**

**Sporting Examples -**

**Definition -**

**Sporting Examples -**

**Illinois Agility Run Test**

**Agility**

**Definition -**

**Sporting Examples -**

**Vertical Jump Test**

**Power**

**Picture**

**Picture**

**Definition -**

**Sporting Examples -**

**35m Sprint Test**

**SPEED**

**Definition -**

**Sporting Examples -**

**Grip Dynamometer Test**

**STRENGTH**

**Definition -**

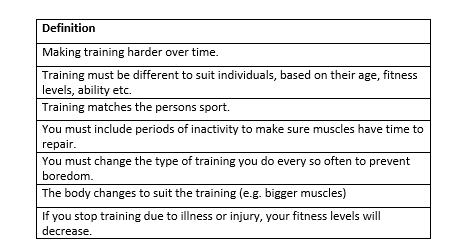
**Sporting Examples -**

**FLEXIBILITY**

**Sit and Reach Test**

**Principles of training**

Match the additional principle of training to its definition.



|  |
| --- |
| **Additional principle of training** |
| Specificity |
| Progressive Overload |
| Adaptation |
| Reversibility |
| Rest and Recovery |
| Individual needs |
| Variation |

**Exam questions:**

1. Marie is a pole vaulter. She trains twice a week with her local athletics club. In her training she focuses on improving her power in her legs and hand grip strength. Discuss the specificity of her training activities. (2 marks)

2. Jordan is a boxer, he trains 3 times a week, 1 session of these is spent in the gym, he has been lifting 8kg for 3 weeks now. Explain how Jordan could improve his muscular strength. (2 marks)

3. If Jordan’s muscular strength improves, discuss how his body might show adaptation. (2 marks)

4. Marie got injured on 20th January whilst training. Discuss the effects of reversibility on her performance. (3 marks)

5. Explain why it is important Jordan includes rest days in his schedule when lifting heavy weights. (2 marks)

6. Explain 3 individual needs that are different for Jordan and Marie and explain how these affect their performance. (6 marks)

7. Explain how Marie could vary her training to reduce boredom. (2 marks)

8. Luke is a 1500m runner and wants to improve his aerobic endurance so that he can enter the 5000m race in July. Discuss how Luke should use the following additional principles of training in his training programme.

* Progressive overload
* Variation
* Rest and recovery.

**PEE paragraph 1.**

Progressive overload is…

I think Luke could use this by…

This would be good for Luke because…

**PEE paragraph 2.**

Variation is…

I think Luke could use this by…

This would be good for Luke because…

**PEE paragraph 3.**

Rest and recovery is…

I think Luke could use this by…

This would be good for Luke because

Components of Fitness

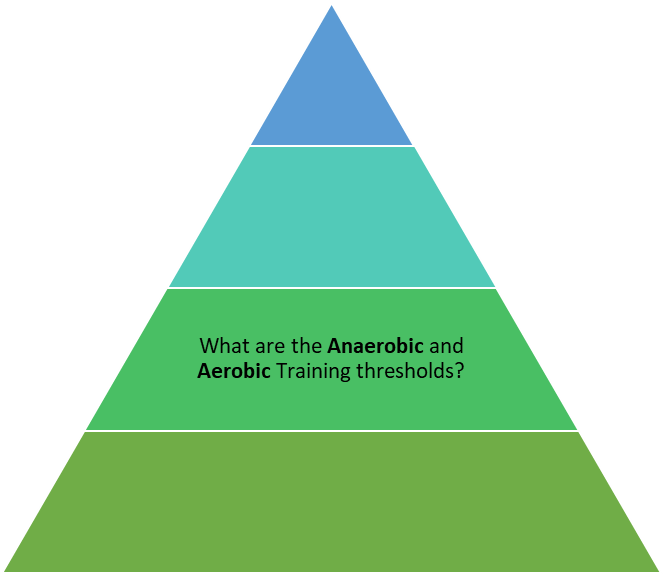
Skill - Related

C  
  
B  
  
A  
  
P  
  
R T

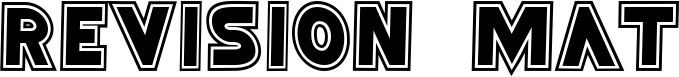
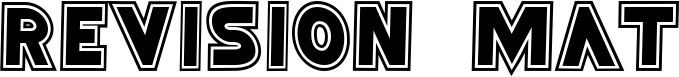
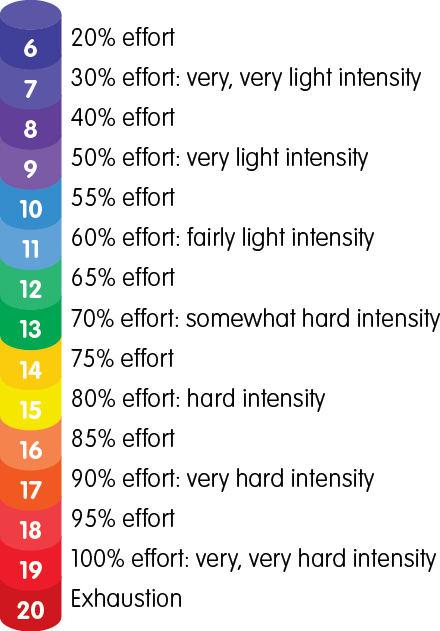


Principles Of Training

F………………. 🡪 How ………………… you train,  
  
I………………. 🡪 How ………………….. you train.  
  
T……………….. 🡪 How …………………... you train.   
  
T …………🡪 What ……………..…you use to train.



What are the Additional Principles of Training?

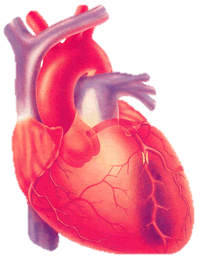


RPE x …….  
 = …….

**Max HR = ……… - age**

A  
  
M  
  
M  
  
F  
  
S  
  
B

**A**ll, **M**uscles, **M**ove, **F**ast &, **S**low, **B**ruv



Name this scale:

S.

PO.

R.

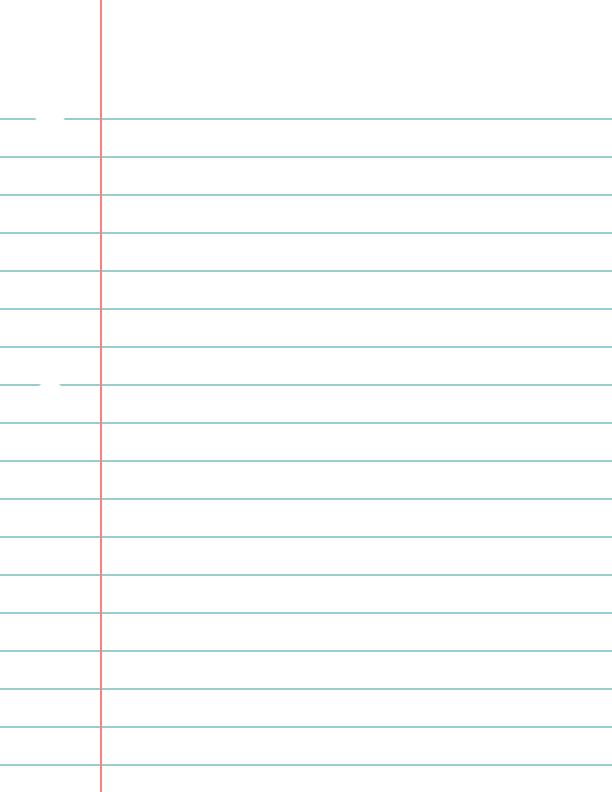
RR.

V.

IN.

A.

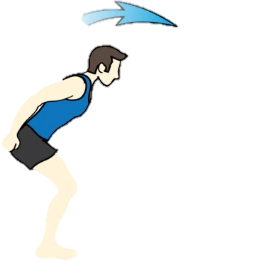
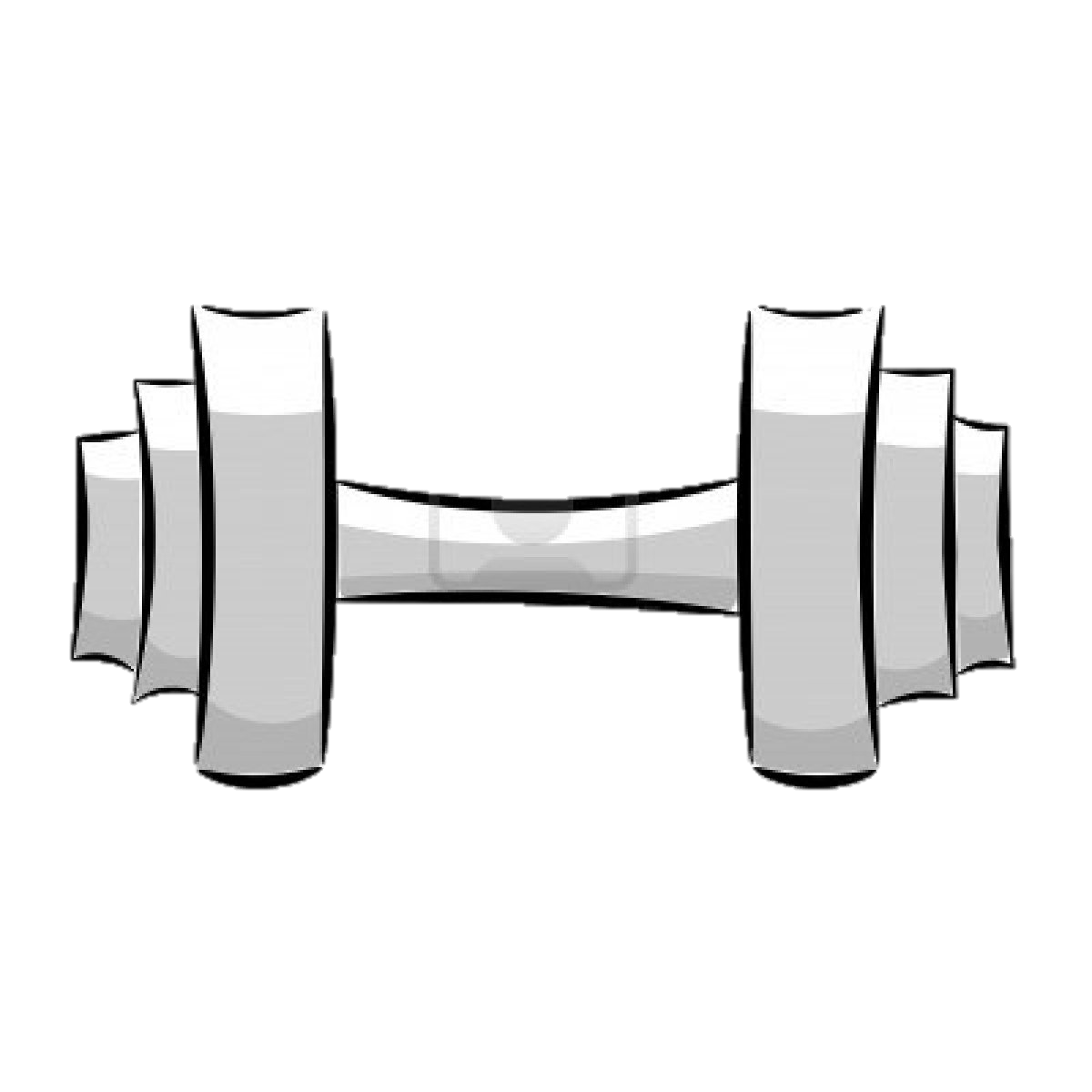
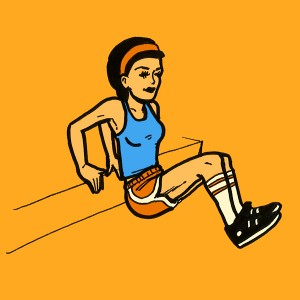
Fill me   
in



**COF:** ………………………………………..  
- Continuous  
- Fartlek ( ……….. play)  
- Interval

**COF:** ……………………………  
-   
- (Bouncy)  
- (Resistance)

**Training Methods**



Name each training method & state which component/s it trains.

**COF:** ……………………………  
-   
-  
-

**COF:** ………………………………………

**COF:** ……………………………

List the Fitness Test used to test each Component of Fitness. (There may be more than 1 test per COF)

How can you use the FITT principles to provide **Progressively Overload** in a training programme?

When fitness testing we need to consider the **Reliability, Practicality** and **Validity** of the tests. What do these mean?

**COF:** ……………………………



Aerobic Endurance

Muscular Endurance

Flexibility

Speed

Body Composition

Strength

Agility