

# Physical Education

Notes & Work Sheets for

MIKE MURRAY  
PAUL BEVIS

A-Level PE  
(**A**ll Boards)

**FELTHAM PRESS**

# Linked Test Questions

## Exercise Physiology

Linked to

'The effects of training'

### Question

- a Endurance training may produce adaptation such as those shown in the table below.

	Non-athlete	Trained Endurance Athlete
Resting Heart Rate (beats per min)	70	50
Maximum Heart Rate (beats per min)	210	180
Resting Stroke Volume of Left Ventricle (cm <sup>3</sup> )	70	100
Maximum Stroke Volume of Left Ventricle (cm <sup>3</sup> )	100	170
VO <sup>2</sup> max (cm <sup>3</sup> .kg.min <sup>-1</sup> )	40	80

- i Explain what is meant by the term stroke volume.

Mark Scheme

(2 marks)

- ii Explain how the stroke volume of the heart increases during exercise.

Mark Scheme

(4 marks)

- iii Calculate the **maximum cardiac output** for the **endurance** athlete.

(3 marks)

# Linked Test Questions

## Psychology

Linked to  
'Making Decisions'

### Question

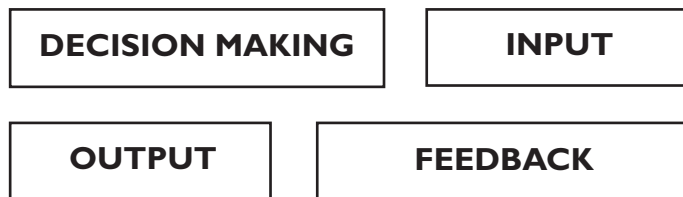
Using the example of a singles tennis player receiving a serve:

Mark Scheme

- a** State the three major receptor systems that provide information.  
*(2 marks)*

Mark Scheme

- b** The items in the boxes below represent the elements of a simple information processing model of skill. Arrange the boxes and add lines and arrowheads to represent the flow of information during the execution of an open skill.  
*(3 marks)*



- c** List three items of information that an experienced player might focus on whilst preparing to receive an opponent's serve.  
*(3 marks)*

# Body Mass Index (BMI)

**Procedure** Calculation from body mass and height.

$$\text{BMI} = M / (H \times H),$$

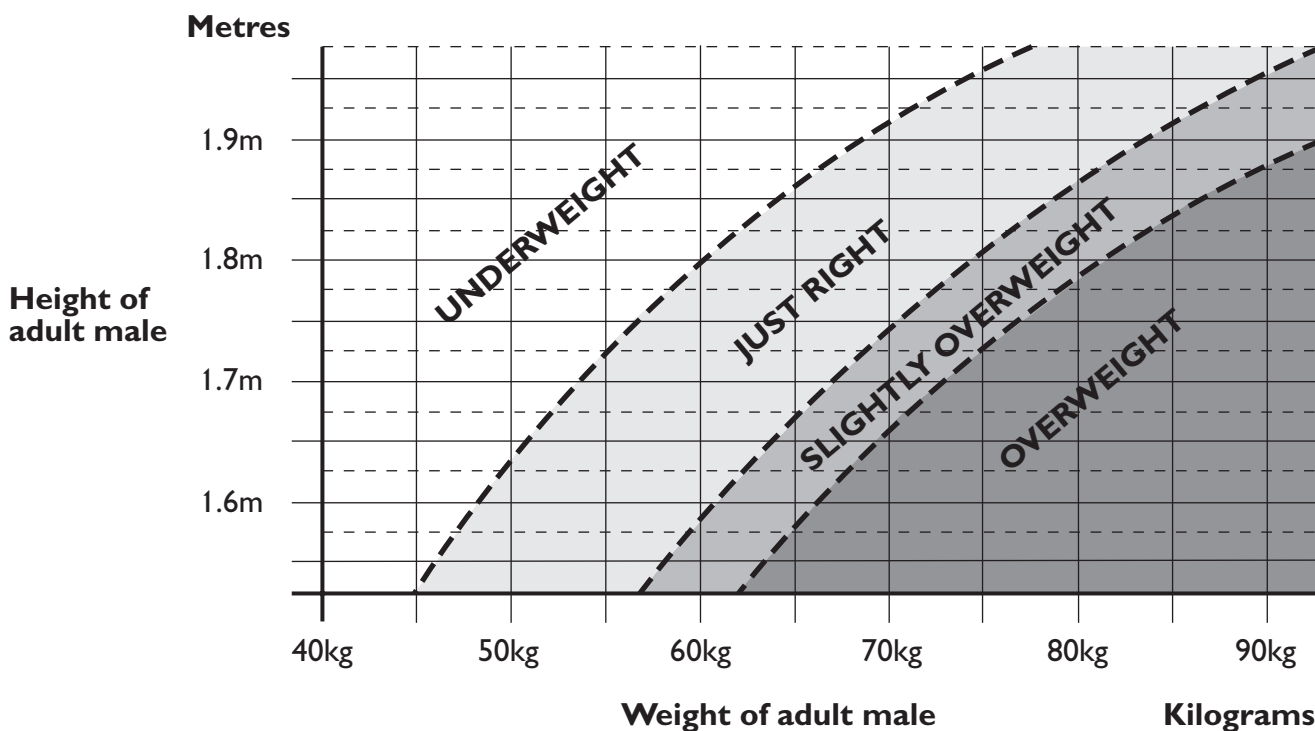
M = body mass in kilograms and H = height in metres.

**Scoring** The higher the score normally indicating higher levels of body fat.

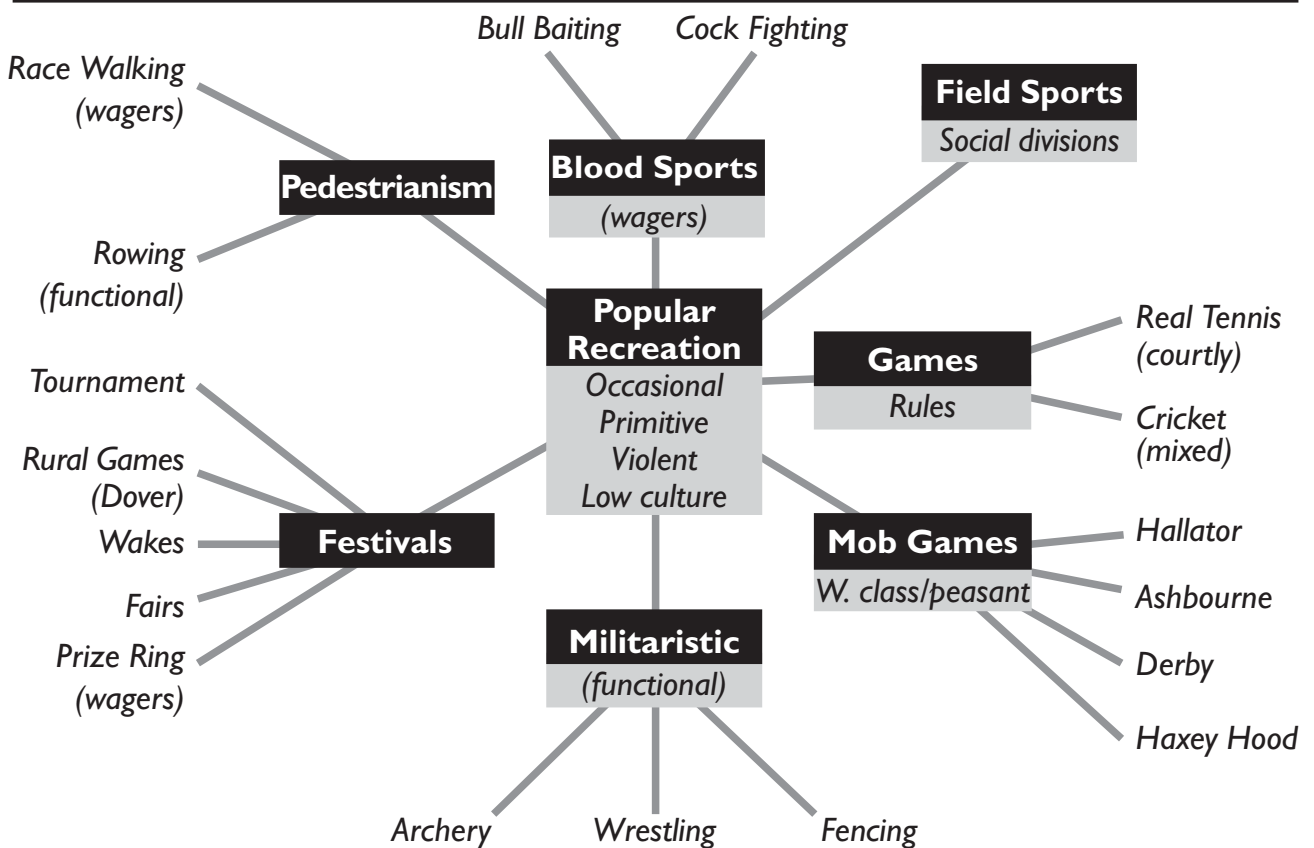
<b>Healthy</b>	20 - 25
<b>Over weight</b>	25 - 30
<b>Obese</b>	> 30

**Advantages** Simple calculation from standard measurements

**Disadvantages** BMI can be inaccurate, for example with large and muscular though lean athletes scoring high BMI levels which incorrectly rates them as obese.



## Popular Recreation - Activities and Characteristics



Extending from Roman Times to 1800's. Still some surviving aspects - but rationalised, civilised. Very localised.

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# Adults at Play

Would the adult and the child be gaining the same experiences here?

Would they be getting the same benefit?



What is this person doing? Why are they doing it?

What might they be gaining by doing it?

How does this activity differ from the other pictures on this page?

Does the nature of the activity affect the benefits to those participating?



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# Resources

## Books

BEASHAL and TAYLOR  
Advanced Studies in P.E. and Sport

BASTIAN  
Anatomy and Physiology

CLEGG  
Exercise Physiology

DAVIS, BULL, ROSCOE and ROSCOE  
P.E. and the Study of Sport

DONNELLY  
Living Anatomy

HAY and REID  
Anatomy, Mechanics and Human Motion

TORTORA and ANAGNOSTAKOS  
Human Anatomy and Physiology

WESSON, WIGGINS, THOMPSON and HARTIGAN  
Sport and P.E. – a complete guide to A-level

SUSAN J HALL  
Basic Biomechanics

KINGSTON  
Understanding Muscles

WIRHED  
Athletic Ability & the Anatomy of Motion

THOMPSON  
Structural Kineisology

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# Task 4 Analysis of Throwing

## Answers



Watch a performer throwing a javelin or a ball overarm – either live or using a VCR.

We are only concerned with the arm action. This occurs in two phases, a preparatory and a throwing phase.

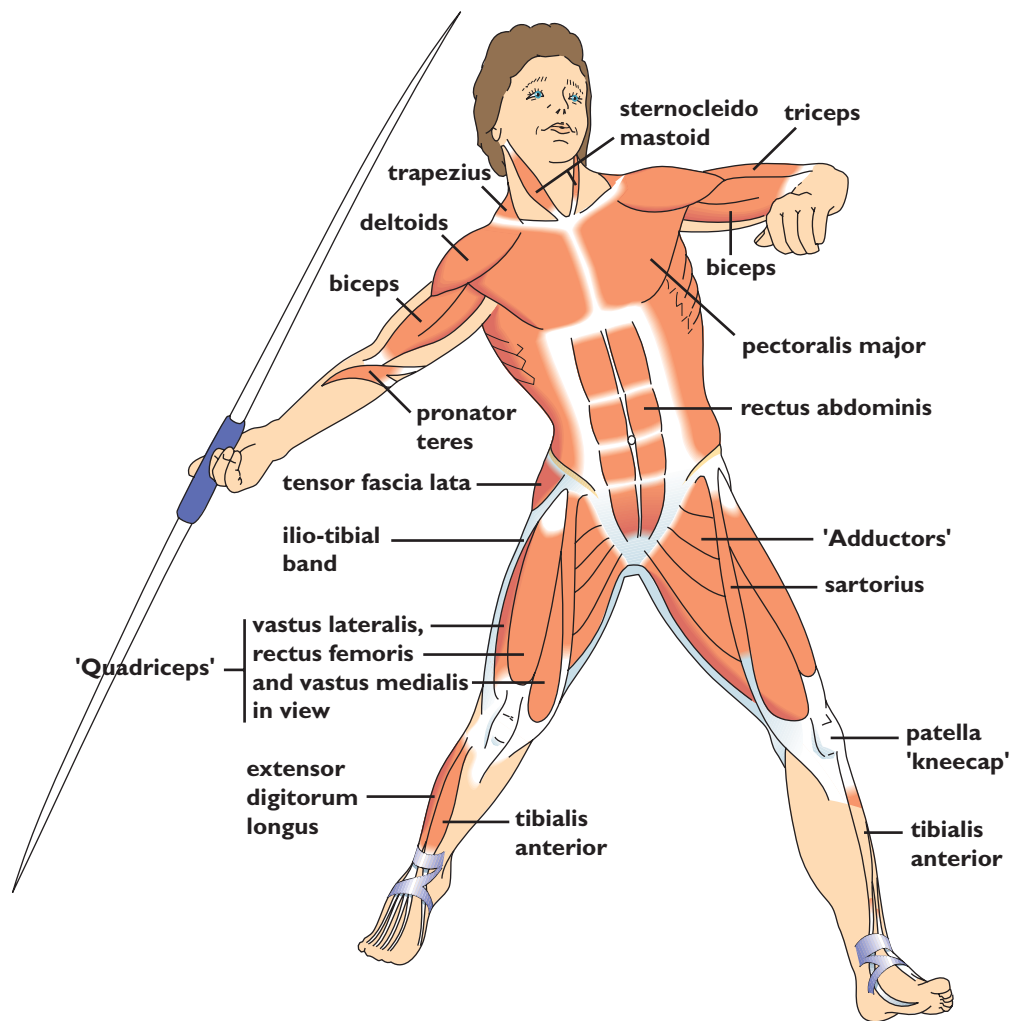
In overarm throwing, there are two phases, the preparatory phase, and the throwing phase, both involving actions at the **shoulder**, and the **elbow**.

Taking the arm back in preparation involves **extension** at the **elbow**. The elbow is a **hinge** joint formed by the **humerus** and **ulna**. **Extension** is produced by the actions of the **triceps brachii** muscle.

At the **ball and socket** joint formed between the **humerus** and the **scapula**, there is **horizontal hyperextension** of the shoulder caused by the action of the **posterior deltoid**, assisted by the **latissimus dorsi**.

The throwing phase involves **flexion** of the **elbow** due to the action of the **biceps brachii** and **horizontal flexion** at the **shoulder**, caused by the action of the **pectoralis major** and the **anterior deltoids**.





a Which two joints are primarily involved in these actions? Complete the table below to show which bones form each of these joints:

<b>Joint</b>	<b>Elbow</b>
Articulating bones	<i>Humerus and Ulna</i>

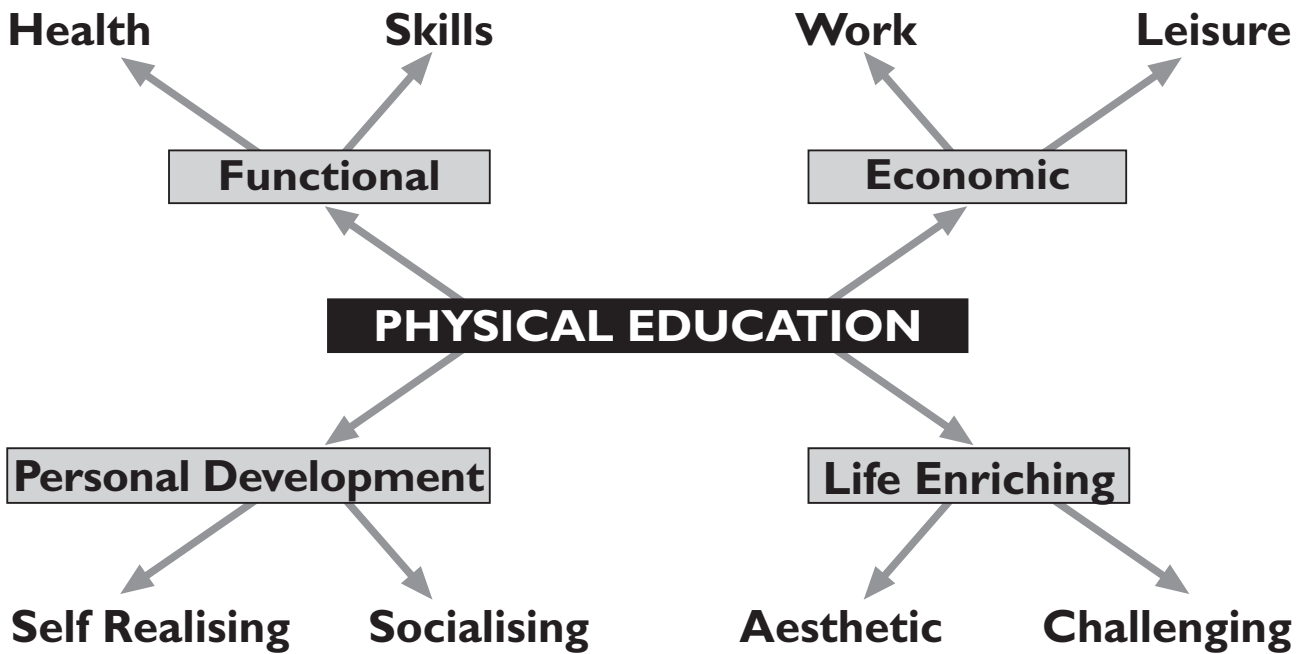
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<b>Joint</b>	<b>Shoulder</b>
Articulating bones	<i>Humerus and Scapula</i>

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*continued....*

## Characteristics of Physical Education



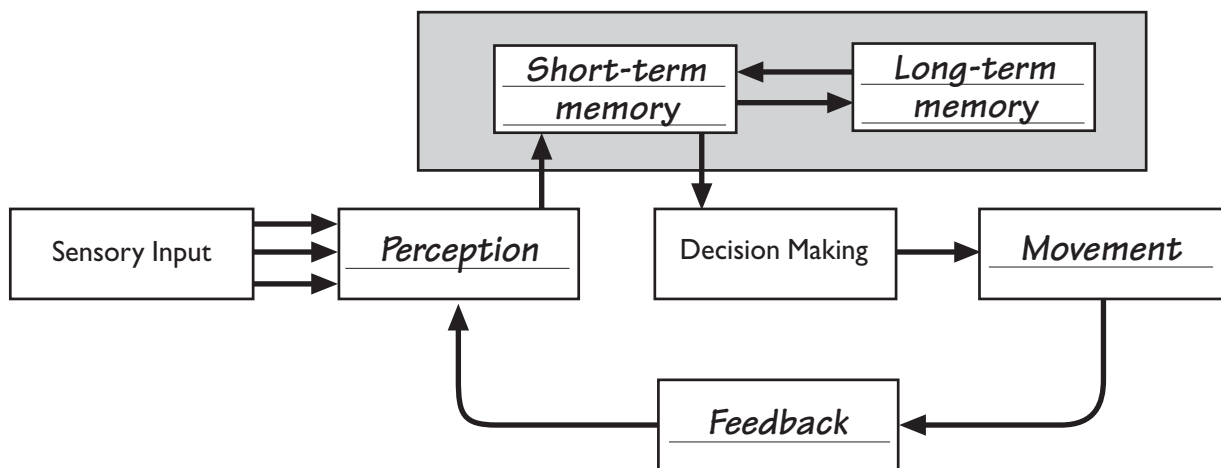
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Explain how memory can be improved.

*Improved by practice; making situation meaningful;  
using images; associating with other memories;*

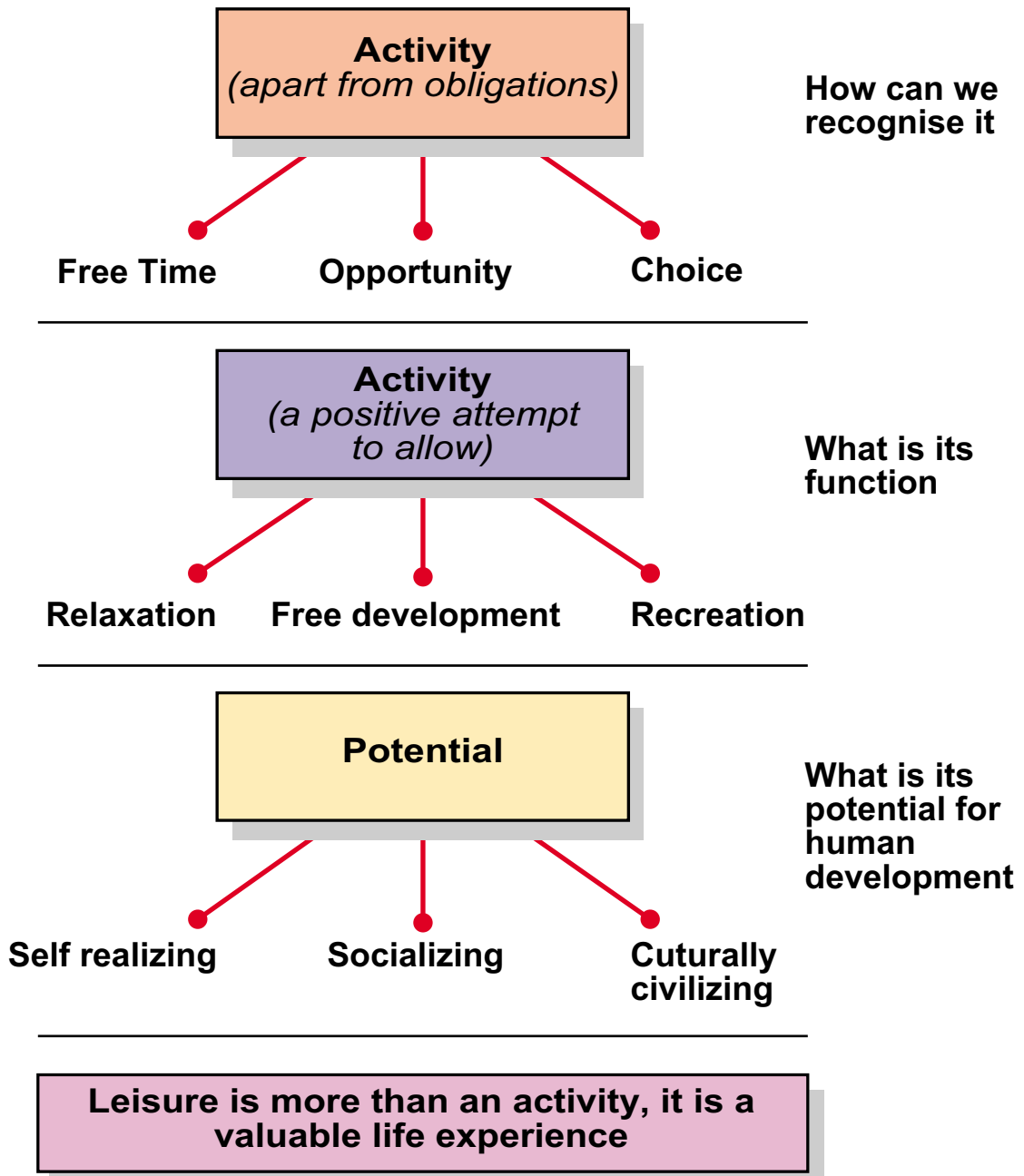
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- k** Label those parts of the information processing model shown in the diagram below.



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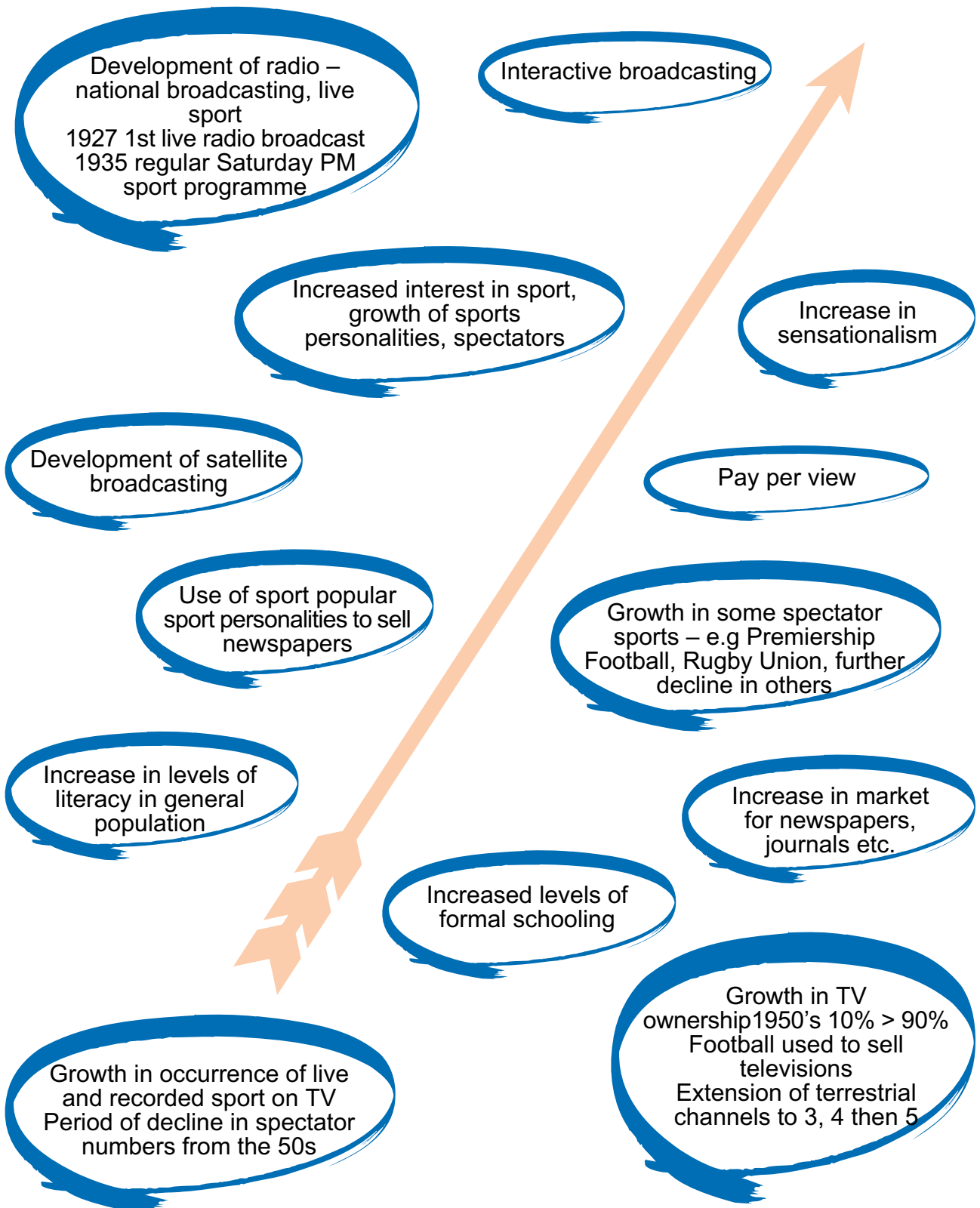
# Concepts of Leisure



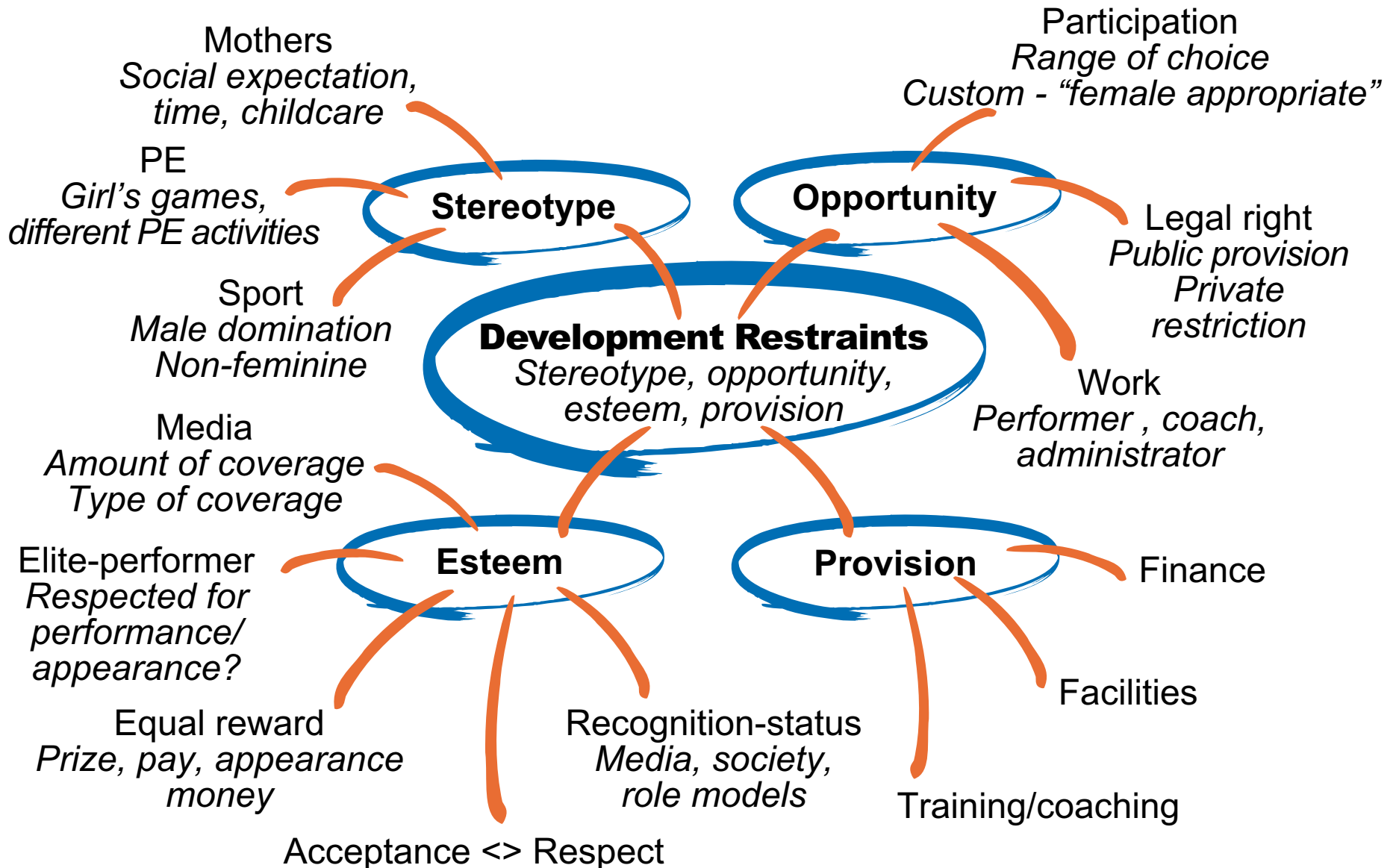
# Place Events in Chronological Order

Using the timeline sheet provided place the following statements or events in chronological order (note some events were concurrent).

*Cut out the balloons and place/stick them on the sheet.*



# Elite Performer Development - Sexism



# Overcoming the Barrier of Racism

