

4.1 Technological Innovations from 1450 to 1750

Name: _____ Class: _____ Date: _____ **Total: 13 marks**

KEY WORDS ship design 船舶设计 • technological basis 技术基础

Objective

Build the skills to explain the **technological basis** 技术基础 of transoceanic travel.

You must be able to:

- name the three sources of the knowledge that reached Europe
- name the three developments the CED lists
- state what those developments made possible
- explain why 'facilitating European developments' is a claim about transmission

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Three sources

Knowledge, scientific learning and technology from the **Classical, Islamic and Asian** worlds spread, facilitating European technological developments and innovation.

■ Three developments

The production of **new tools**, innovations in **ship designs**, and **an improved understanding of regional wind and current patterns** — a tool, a vessel, and a body of knowledge.

■ What they made possible

All of which **made transoceanic travel and trade possible**. The CED makes the voyages depend on the technology, not on courage or curiosity.

■ Transmission

The European developments are described as **facilitated** by knowledge from elsewhere. Unit 2's networks carried the knowledge that unit 4's voyages used.

2 Practice

2.1 Name the three sources of the knowledge that spread. [3]

2.2 Name the three developments and classify each. [3]

2.3 The CED says European developments were facilitated.

(a) State what this means about their origin. [1]

(b) State the link to unit 2. [1]

3 Exam-style questions

3.1 The developments are said to have made possible [1]

- **A** land empires
- **B** transoceanic travel and trade
- **C** the printing press
- **D** the plague

3.2 The improved understanding concerned [1]

- **A** regional wind and current patterns
- **B** crop rotation
- **C** metallurgy
- **D** taxation

3.3 A technique developed in one region is used to reach another.

(a) State what this shows about the voyages.

[1]

(b) Explain why this weakens a purely European account.

[2]

Solutions

2.1 the Classical world; the Islamic world; the Asian world.

2.2 new tools — a tool; ship design innovations — a vessel; wind and current knowledge — a body of knowledge.

2.3 (a) that the knowledge came from outside Europe and was built on there. (b) unit 2's networks carried the knowledge unit 4's voyages used.

3.1 B. the CED's own phrase.

3.2 A. wind and current patterns.

3.3 (a) that they rested on knowledge accumulated across Afro-Eurasia. (b) the enabling knowledge was Classical, Islamic and Asian, so the voyages are an outcome of connection rather than of one region alone.