



EduTrend Contents

P4C · CONCEPTS AND DEFINITIONS · MIDDLE SCHOOL

The Heap of Sand

When does a heap stop being a heap? Exploring vague words

Ages 12–14

Level: Intermediate

50 minutes

Circle and small groups
· up to 30

Activity 04

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 student worksheets · assessment checklist

ACTIVITY 04 · AT A GLANCE

The Heap of Sand

Students consider an ancient puzzle: a heap of sand minus one grain is still a heap. If you keep removing one grain at a time, when does it stop being a heap? The same puzzle works for “tall”, “old” and “rich”. Students try to draw a line and find it hard. They enquire into whether vague words are a problem and how laws and rules deal with them, such as setting an age for voting.

Learning outcomes

By the end of the session students can:

- explain the heap paradox;
- identify vague concepts;
- evaluate ways of handling vagueness;
- apply ideas to rules and laws.

KEY WORDS

paradox · vague · borderline · line · heap · precise

CURRICULUM LINKS

Maths: estimation. Citizenship: age limits in law. English: precise language.

1**STIMULUS**

Share something to think about

2**THINK**

Quiet thinking time

3**QUESTION**

Create and choose a question

4**ENQUIRE**

Reason together

5**BUILD**

Agree, disagree, add

6**REFLECT**

Last words

Materials (per class)

- A small pile of rice or sand
- Vague word cards
- Question and thinking-move cards
- Worksheets 1, 2 and 3

Before the session

- Read the stimulus and note possible concepts.
- Prepare question and thinking-move cards.
- Set out a circle so everyone can see each other.
- Print the worksheets.

SAFETY

Everyone may pass. Discuss ideas, not people, and use the story or invented examples rather than personal situations.

ACTIVITY 04 · SESSION PLAN

Step by step

Stay neutral: ask for reasons, examples and counter-examples rather than giving your own view.

Time	What happens	Say or ask
0–8 min Stimulus	Present the heap paradox with a pile of rice or sand.	<i>"What did you notice?"</i>
8–20 min Questions	Students create questions in pairs and vote on one.	<i>"Which question is most interesting to talk about?"</i>
20–44 min Enquiry	Enquire into the chosen question, building on each other's ideas.	<i>"When does a heap stop being a heap?"</i>
44–50 min Last words	Each person says one last thought or passes.	<i>"Has your thinking changed?"</i>

CHALLENGE CARD (print or copy onto the board)

Propose a way to handle the heap paradox and test it on "tall".

ACTIVITY 04 · FACILITATOR NOTES

The philosophy in brief

This puzzle is called the sorites paradox, from the Greek word for heap, and is traditionally credited to the ancient philosopher Eubulides of Miletus.

Laws often draw exact lines, such as age limits, even though the ideas behind them are vague.

Common ideas to listen for

- “There must be an exact grain.” That is the puzzle.
- “Vague words are useless.” We use them successfully all the time.
- “Exact lines are always fair.” They can seem arbitrary.

Adapting the activity

Support

Use the word “tall” with pictures.

Stretch

Research another paradox from ancient Greece.

WORKSHEET 1

Our questions

Name: _____

Class: _____ Date: _____

Write questions the stimulus makes you wonder about.

Our questions

Question	Who asked	Votes

WORKSHEET 2

Vague words

Test each.

Vague words

Word	Clear case	Borderline case	Could we draw a line?
Heap			
Tall			
Old			
Rich			

WORKSHEET 3

Last words

Before and after.

Should rules use exact lines even if words are vague? Before the enquiry I thought... Now I think... because...

FOR THE TEACHER

Assessment checklist

Use during the session. One sheet covers up to eight students; copy as needed.

Student	Asks a philosophical question	Gives reasons and examples	Listens and builds on others

Suggested codes: W = working towards · E = expected · G = greater depth

ABOUT THIS ACTIVITY

The Heap of Sand is a sample activity from the EduTrend Contents P4C Concepts and Definitions programme (middle school, level: intermediate). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at edutrend.org.

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