

Review

1. When is the difference between an **argument** and an **assertion**?
2. What is the difference between an **argument** and **rhetoric**?
3. What is an **argument**?
4. How many **premises** does an argument have?
5. And how many **conclusions**?
6. What is the **standard form** of an argument?
7. Why do we reconstruct arguments and put them into standard form?

Write
(and
simplify)
this in
standard
form.

An argument

Philosophy, with its focus on critical thinking and exploration of fundamental questions, is the best subject on the curriculum. This is because philosophy teaches critical thinking, which is essential for navigating the complexities of the modern world. It is also because philosophy explores fundamental questions about existence, morality, and knowledge, fostering a deeper understanding of ourselves and the world around us.

What is the difference between induction and deduction?

Two kinds of argument, inference, and reasoning

What's the difference?

- 90% of all philosophy teachers are boring
- Mr Stone is a philosophy teacher
- **So, Mr Stone is boring**

- All philosophy teachers have been to university
- Mr Stone is a philosophy teacher
- **So, Mr Stone has been to university**

The premises, if true...

Deductive Logic

Lead *down*



Conclusion is guaranteed true

Inductive Logic

Lead *into*



Conclusion is probably true

Deduction versus Induction

deduction

Premises, if true,
_____ (entail) the
conclusion

induction

Premises, if true,
_____, but do not
entail, the conclusion

Deductive or inductive?

- All snails are slimey
- Sid is a snail
- Sid is slimey

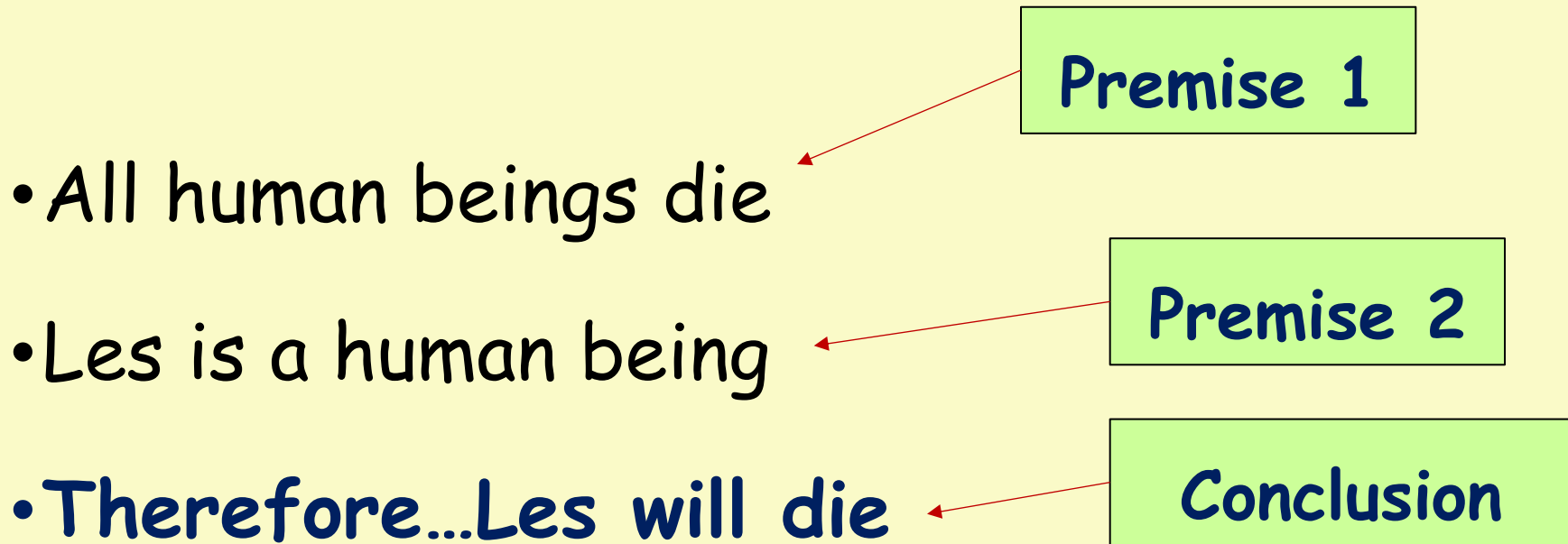
- Mr. Sid is blue
- Mrs. Sid is blue
- All 8 members of the Sid family are blue

Deductive or inductive?

- If it's cold, wear a coat
- It's cold
- **Wear a coat**

- Every time I see Anya, she has smiled
- **The next time I see Anya, she will smile**

Deduction: Syllogisms



How convincing is this argument, in your view?



All men are strong

Ben is a man

Ben is strong



All lions are yellow

Leo is a lion

Leo is yellow

Same structure (or form), different content

All lions are
yellow

Leo is a lion

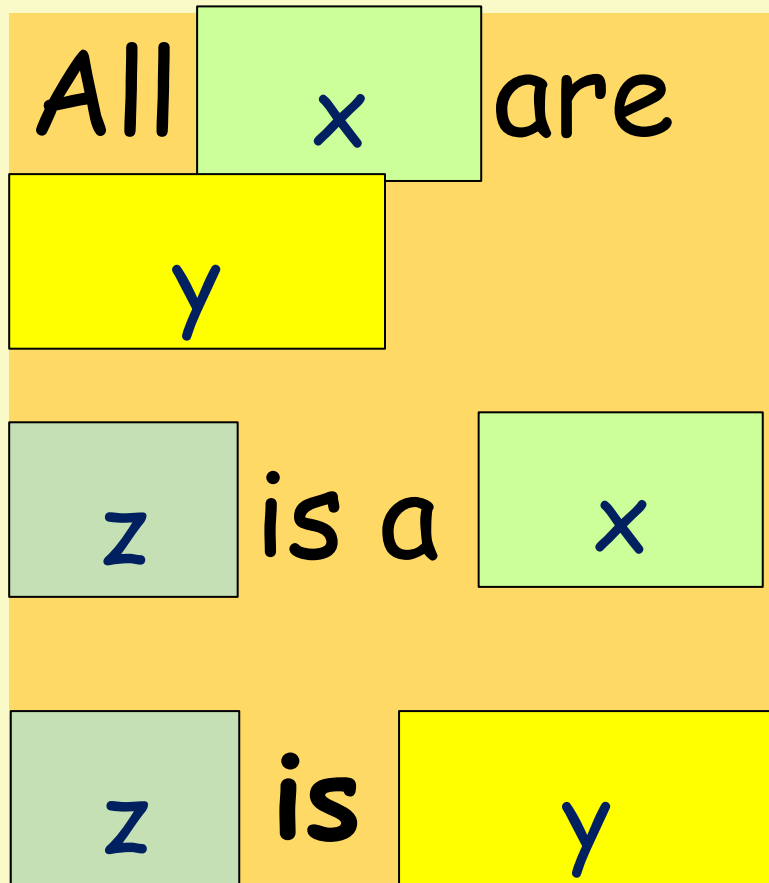
Leo is yellow

All men are
strong

Ben is a man

Ben is strong

Same structure (or form), different content



(P1). All x are y

(P2). z is an x

(C). z is a y

(P1). All footballers
are rich

(P2). Harry is a
footballer

(C). Harry is rich



Devise three syllogistics arguments of your own

(P1). All x are y

(P2). z is an x

(C). z is a y

A deductive argument is valid if

the premises,
entail the
conclusion

The argument
has a valid
form

Valid or invalid?

- All BW students are over 7ft tall
- Emily is a BW student
- **Therefore, Emily is 7ft tall**

Valid or invalid?

- All BW sixth-form students can wear their own uniform
- Indie is a sixth-form BW student
- **Therefore, Indie likes badminton**

Valid or invalid?

- All BW students
are happy
- Isabella is a BW
student
- **Therefore,**
Isabella is happy

Valid or invalid?

- All BW students do philosophy
- Sophie is a BW student
- **Therefore, Sophie does Media**

Valid or invalid?

- All BW students live in Chislehurst
- Ani is a BW student
- **Therefore, Ani lives in Chislehurst**

Valid or invalid?

- All BW students
are aggressive
- Sarah is a BW
student
- **Therefore, Sarah
is not aggressive**

- If it's raining,
take an umbrella

- It's pouring
down

- So take an
umbrella





- If you are rich, you own an expensive watch
- You are rich
- Therefore, you own an expensive watch

This is a modus ponens argument

(P1). If p , then q

(P2). p

(C) q



- If you cool, you support Everton
- You are cool
- Therefore, you support Liverpool

- If you have taste in music, you love Taylor Swift
- You have no taste in music
- Therefore, you love Taylor Swift





- If you have taste in music, you love Taylor Swift
- You have taste in music
- Therefore, you love Taylor Swift

Devise 3 arguments of your own with this structure

(P1). If p then q

(P2). p

(C). q

Deductive arguments
fail if they don't
have a valid
structure such as
the **sylllogism** and
modus ponens

They are **invalid**

Deductive arguments also fail if one (or more premises) are false

This makes them are **unsound**

Sound or unsound?

- All BW students are aged 19 or under
- Amy is a BW student
- **Therefore, Amy is 19 years old or under**

Sound or unsound?

- All BW students have a head of year
- Mr Stone is a BW student
- **Therefore, Mr Stone has a head of year**

Sound or unsound?

- All BW students are over 11 years old
- Jessica is a BW student
- **Therefore, Jessica is over 11 years old**

Sound or unsound?

- All BW students
are female
- Amy is a BW
student
- **Therefore, Amy is
a female**

Sound or unsound?

- All RS teachers
have been to uni
- Mr Stone is an RS
teacher
- **Mr Stone has
been to uni**

Another argument

- If it's raining outside, then take an umbrella
- It's pouring down out there
- **So...take an umbrella with you**

1. What are the premises?

2. What is the conclusion?

3. Is it valid?

4. Is it sound?

Another argument

- If it's freezing outside, then wear a coat
- It's warm outside today
- Therefore, wear a coat

Where does this argument go wrong?

A fourth argument

- All Geography teachers are boring
- Mr Stone is a Geography teacher
- Mr Stone is boring

And where does this argument go wrong?

Induction

An inductive argument (by enumeration)

- Swan A is white
- Swan B is white
- Swan C is white
- Therefore, all swans are white

1. Do the premises

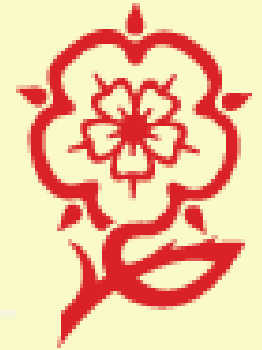


false?

- Pupil A, Olivia, is female
- Pupil B, Jane, is female
- Pupil C, Jenny, is female
- Pupil D, Izzy, is female
- Pupil E, Ron, is male

- Most BW pupils are female

BULLERS
WOOD
SCHOOL



Another inductive argument

- Every time I've seen Callista,
she smiles
- The next time I see Callista,
she will smile

Another inductive argument

- Normally, when I pass the house, the dog barks
- The next time I pass the house, the dog will bark



Inductive arguments are unconvincing if

- 1. One or more premise is **false**
- 2. If a premise **does not support** the conclusion

Why does this one fail?

- Jimmy has blue eyes
- Therefore, he's a good footballer



And why does this one fail?

- 95% of RS teachers have been snorkelling
- Mr Stone is an RS teacher
- Mr Stone has been snorkelling



Is this a good argument?

- Most BW students live in Bromley
- Nihinsa is a BW student
- Nihinsa lives in Bromley

And this one?

- Most BW students like candy
- Martha is a BW student
- Martha likes candy

Review

Explain to your partner,
using examples, the
difference between
induction and deduction

Explain the difference
between **induction** and
deduction (12)