

Ten minute code breaker challenge

The future of the Arctic is under threat. Find out why by converting the number code to letters*.

There are **10 points** for every threat you convert, plus the equivalent scrabble score for those letters.
Who will rack up the most points?

A ₁	B ₃	C ₃	D ₂		
E ₁	F ₄	G ₂	H ₄	I ₁	J ₈
K ₅	L ₁	M ₃	N ₁	O ₁	P ₃
Q ₁₀	R ₁	S ₁	T ₁	U ₁	V ₄
	W ₄	X ₈	Y ₄	Z ₁₀	

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

- 9,3,5//13,5,12,20//21,14,12,15,3,11,19//13,5,20,8,1,14,5//19,20,15,18,5 ICE MELT UNLOCKS METHANE STORE
- 15,3,5,1,14//1,3,9,4,9,6,9,3,1,20,9,15,14 OCEAN ACIDIFICATION
- 1,9,18//16,15,12,12,21,20,9,15,14//9,14//12,15,23//12,1,20,9,20,21,4,5,1//3,15,21,14,20,18,9,5,19 AIR POLLUTION IN LOW LATITUDE COUNTRIES
- 14,1,20,21,18,1,12//7,1,19//5,24,16,12,15,18,1,20,9,15,14 NATURAL GAS EXPLORATION
- 4,18,9,12,12,9,14,7//6,15,18//15,9,12 DRILLING FOR OIL
- 6,9,19,8,9,14,7 FISHING
- 20,15,21,18,9,19,13 TOURISM
- 19,8,9,16,16,9,14,7//18,15,21,20,5,19// SHIPPING ROUTES
- 13,9,15,5,18,1,12//5,24,16,12,15,9,20,1,20,9,15,14 MINERAL EXPLOITATION
- 7,12,15,2,1,12//23,1,18,13,9,14,7 GLOBAL WARMING

What **IMPACT** do humans have on the Arctic biome?

SUCCESS CRITERIA: Learning is successful when I can...

IDENTIFY... (1-2)

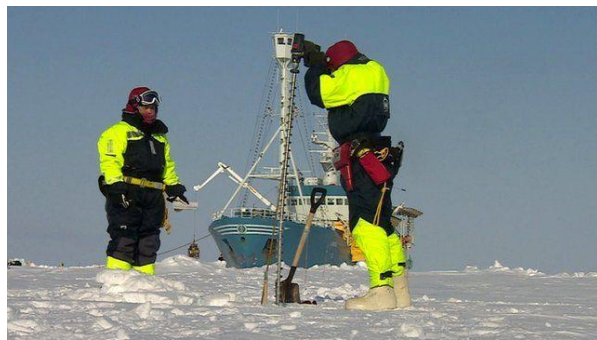
DESCRIBE... (3-4)

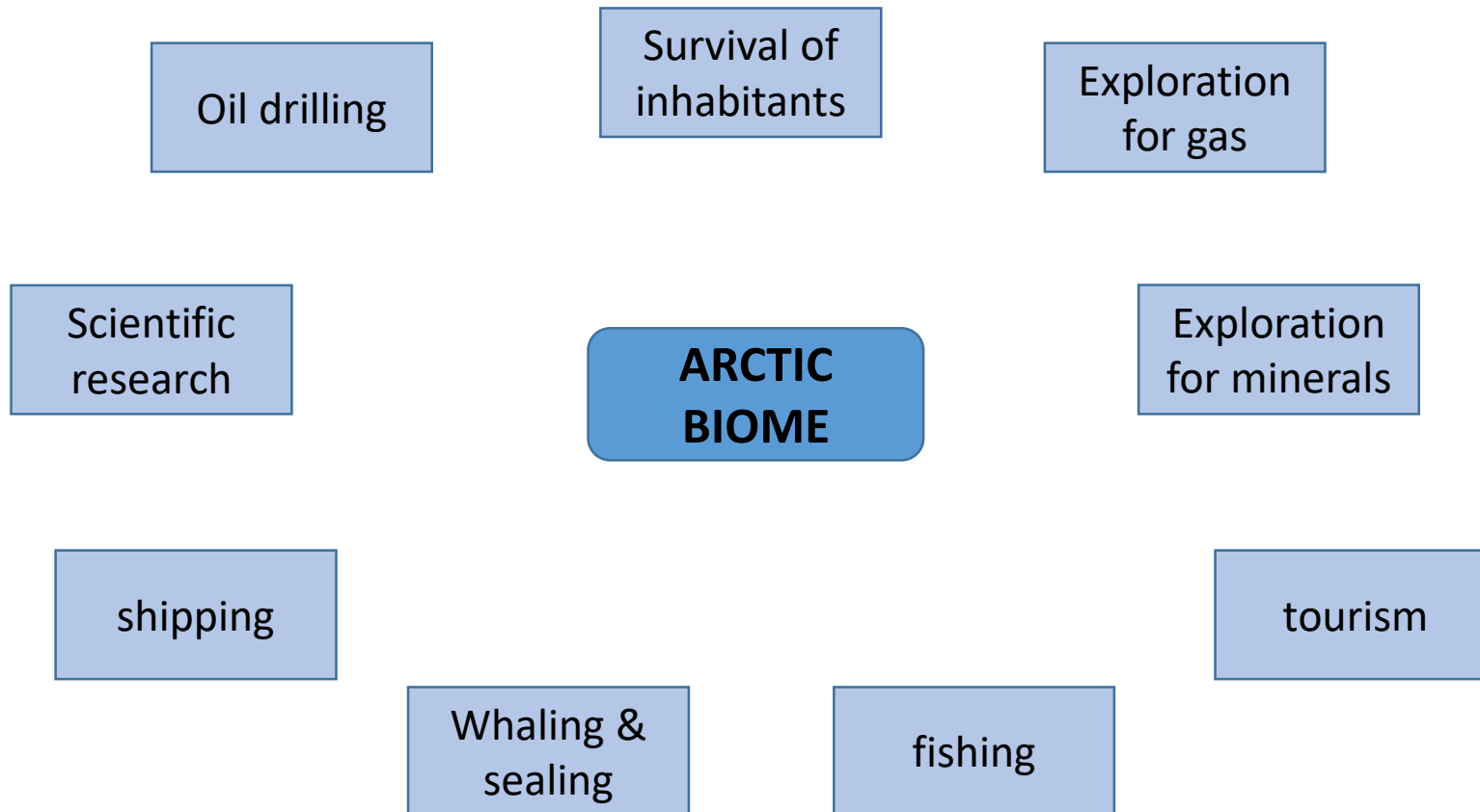
EXPLAIN... (5+)

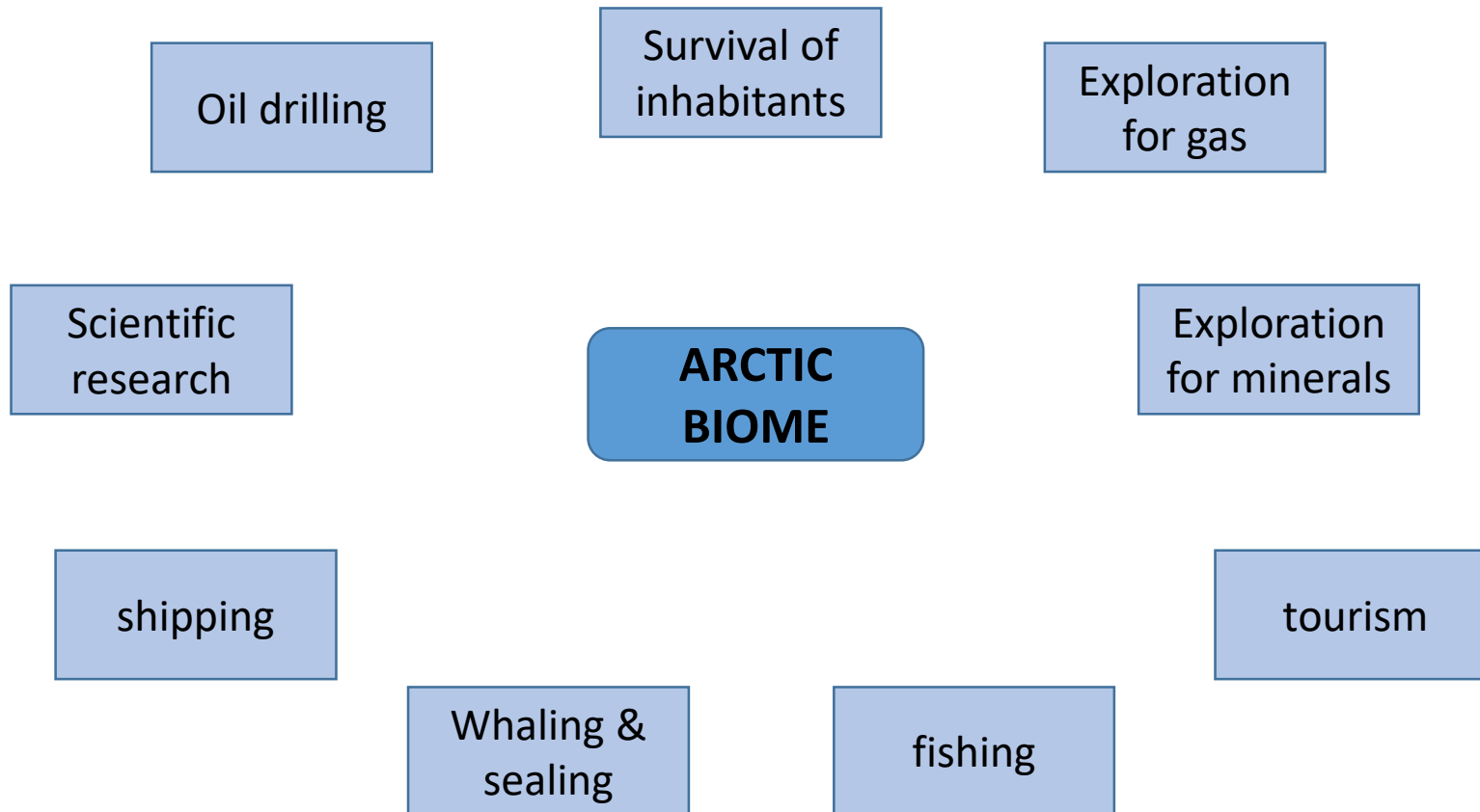
... the current impacts

BONUS: *make plausible suggestions as to what you think the future might hold and why*

Which human activity shown here did NOT feature in our code breaker list?







Oil drilling

Survival of
inhabitants

Exploration
for gas

Scientific
research

Exploration
for minerals

shipping

tourism

Whaling &
sealing

fishing

**ARCTIC
BIOME**

What **IMPACT** do humans have on the Arctic biome?

People use the Arctic for many activities:

- Scientific research
- Whaling & sealing
- Fishing
- Indigenous people live and work there
- Drilling for oil and gas
- Tourism
- Shipping routes

All of these activities can result in negative impacts for the Arctic ecosystem.

<http://www.bbc.co.uk/programmes/p002v2r9>

<http://www.bbc.co.uk/news/science-environment-32530454>

<http://www.bbc.co.uk/news/world-europe-23842254>

<http://www.bbc.co.uk/education/guides/z8r6fg8/revision/5>



HOW DO PEOPLE USE THE ARCTIC REGION?



SUCCESS CRITERIA: I CAN...
IDENTIFY... (1-2) DESCRIBE... (3-4) EXPLAIN... (5+)

... the current and potential **IMPACTS OF HUMAN ACTIVITY ON THE ARCTIC ECOSYSTEM.**

What **IMPACT** do humans have on the Arctic biome?

**MOST INDIGENOUS PEOPLE USE
THE ARCTIC IN A SUSTAINABLE
WAY**



An estimated 5 million people live in the Arctic. Native (indigenous) people have lived in the tundra environment for thousands of years without irreparably damaging it. They practise a primitive form of survival by hunting and fishing for all of their food including birds, seals, walrus and whales.

It is a traditional and sustainable lifestyle, which involves catching just enough food for survival. Along with other features of their culture and traditional way of life, Inuit hunters' methods of getting food are under threat from large-scale developments.

How might development and exploration threaten the Inuit's traditional way of life and the biodiversity?

SUCCESS CRITERIA: I CAN...

IDENTIFY... (1-2)

DESCRIBE... (3-4)

EXPLAIN... (5+)

... THE IMPACTS OF HUMAN ACTIVITY ON THE ARCTIC ECOSYSTEM.

What **IMPACT** do humans have on the Arctic biome?

TASK:

Use the information from the videos and the images opposite. Produce a mind map or a table to describe the impacts that different activities can have on the Arctic ecosystem. For example, oil pollution harms wildlife.

Categorise impacts as social, environmental or economic (or a combination). You could consider both positive and negative impacts.

TMT CHALLENGE (aka Mrs E's 'so what x 3')

You now need to develop your mind map or table to a higher level through use of 'this means that'. You should consider both positive and negative impacts.

EXAMPLE: Tourist boats disrupt the breeding ground for animals
TMT species numbers decline
TMT traditional fishing/hunting may be lost
TMT Inuit numbers may decline.

CHALLENGE (Grade 5+)

Think about how each of the impacts you have identified can be managed in a sustainable way.

SUCCESS CRITERIA: I CAN...

IDENTIFY... (1-2)

DESCRIBE... (3-4)

EXPLAIN... (5+)

... THE IMPACTS OF HUMAN ACTIVITY ON THE ARCTIC ECOSYSTEM.



Env Impact is potentially widespread. Risk of oil spills; pipelines above ground affect migration routes of species eg Caribou – affects food web **L**

Enviro Impact is limited. Sustainable
☞ only take what they need **L**

Positive impact

Negative impact

Consider Soc; Ec (\$) & Env

L Local scale impact

Oil drilling

Survival of inhabitants

Exploration for gas

Scientific research

ARCTIC BIOME

Exploration for minerals

shipping

tourism

Whaling & sealing

fishing

SUCCESS CRITERIA: I CAN...

IDENTIFY... (1-2)

DESCRIBE... (3-4)

EXPLAIN... (5+)

... the current and potential IMPACTS OF HUMAN ACTIVITY ON THE ARCTIC ECOSYSTEM.